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iCOMPEL V8.1.1

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This equipment generates, uses, and can radiate radio-frequency energy, and if not installed and usedproperly, that is, in strict accordance with the manufacturer's instructions, may cause inter-ference to radio communication. It has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique publié par Industrie Canada.

Instrucciones de Seguridad
(Normas Oficiales Mexicanas Electrical Safety Statement)

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.

2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.

3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.

4. Todas las instrucciones de operación y uso deben ser seguidas.

5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc..

6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.

7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.

8. Servicio El usuario no debe intentar dar servicio al equipo eléctrico más allá a lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.

9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquea la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.

10. El equipo eléctrico deber ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.

11. El aparato eléctrico deberá ser connectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.

12. Precaución debe ser tomada de tal manera que la tierra fisica y la polarización del equipo no sea eliminada.

13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.

14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.

15. En caso de existir, una antena externa deberá ser localizada lejos de las lineas de energia.

16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.

17. Cuidado debe ser tomado de tal manera que objectos liquidos no sean derramados sobre la cubierta u orificios de ventilación.

18. Servicio por personal calificado deberá ser provisto cuando:

A: El cable de poder o el contacto ha sido dañado; u
B: Objectos han caído o líquido ha sido derramado dentro del aparato; o
C: El aparato ha sido expuesto a la lluvia; o
D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o
E: El aparato ha sido tirado o su cubierta ha sido dañada.

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Part I

Welcome to iCOMPEL Digital Signage

1. Welcome to iCOMPEL Digital Signage

Welcome to iCOMPEL user's guide.

There is plenty of information here to help you get started using your iCOMPEL

You can browse through the Table of Contents or the PDF bookmarks, use the Index at the end of the guide, or use the Adobe Reader search facility to find any term.

Learn about Important terms 10

Learn about the iCOMPEL user interface 12

Find out about creating digital signage 15

Find out about enhancing your digital signage 67 with additional features

Find out about using Ad hoc features and overrides 79

Check the status 111 of your iCOMPEL and regular maintenance tasks 94 for your iCOMPEL

Find out about managing Digital Signage Networks 98

1.1 Terms you need to know

The product uses a number of special terms that you need to understand so that you can get the best out of the system. Here's a list of the key terms to help you get started quickly.

iCOMPEL

An **iCOMPEL** is a digital signage player that connects to a **Screen** and a network. You manage the **iCOMPEL** through a web browser over the network.

Screen

A **Screen** is the hardware that shows the output of an **iCOMPEL**. It is attached to the **iCOMPEL,** and is not the same as the monitor for your computer. The Screen is usually an LCD panel or LCD TV; it could be a Plasma screen (though Plasma screens are not recommended for most digital signage systems); or a projector and screen arrangement.

Schedule

Your **iCOMPEL** is designed to run continuously. You control which **Layouts** are displayed on what days and at which times by creating a Schedule. The Schedule might say that *Layout X* runs from 4:00pm to 6:00pm on Mondays to Fridays, *Layout Y* runs from 2:00pm to 8:00pm on Saturdays and Sundays, and *Layout Z* runs at all other times. More about Schedules... 15

Layout

A **Layout** is the arrangement of all the different display areas (**Zones**) and background images that are displayed together. Your Layout may include video in one Zone, scrolling text in another Zone, and a sequence of still images in a third Zone. Your audience sees everything in your Layout, so you need to take care to design Layouts that are appealing and effective. More about Layouts... 20

Zone

Your Layout is made up of a number of defined rectangular areas known as **Zones.** Each Zone can display **Media items**. You can decide on the number of **Zones** in your Layout, their sizes, and where they are placed. You generally need different **Zones** for different media types - one for scrolling text, one for a promotional video, and so on, though some media types can share the same **Zone**. Each **Zone** can display a sequence of media items which you have chosen and arranged into a **Playlist**. More about Zones... 23

Playlist

A **Playlist** is a sequence of **Media items** that you have chosen for display in a **Zone**. Each Zone has its own Playlist, which runs continuously, and is independent of all the other Playlists. If you wish, you can synchronize the display between two Playlists, so that for example, a scrolling text message starts to play at the same time as a related promotional video. More about Playlists... 29

Media items (digital content)

You can use your **iCOMPEL** to display a wide range of digital Media items. These include fixed and scrolling text, movies, images, Flash animations, Web pages, and RSS feeds. To display a media item, you need to add it to the Playlist for a Zone. If your digital signage uses sound, you need to know that Audio items are treated differently, as they are added to the Soundtrack for the Layout, and not to the Playlist for a Zone. More about Media items... 35

Ad hoc items

You can allow other people to make minor changes to some parts of your digital signage, by creating special **Ad hoc** items and allowing limited access to special pages where those items appear. For example, in a digital signage for a hotel lobby you can define an Ad hoc text area for Meeting Room Details, and allow the hotel's receptionist access to this area only so they can update the details every day. More about Ad hoc items... 79

Administrators and Ad hoc users

You are the Administrator of an **iCOMPEL** if you have access to the entire **iCOMPEL** system and can create **Layouts** and **Schedules** and arrange items in **Playlists.** If you only have access to a specific page which allows you to alter only a limited number of specific items, you are an **Ad hoc User.**

iCOMPEL Channels

You can set up multiple **iCOMPEL** players to display the same Layouts in a Channel. A **Channel** has one **Publisher iCOMPEL**, where Layouts are designed, and one or more **Subscriber iCOMPEL** players which simply display the Layouts from the Publisher. The Schedule for the **Publisher iCOMPEL** is then the Schedule for all the **iCOMPEL** that subscribe to the Channel. You can even configure a number of Channels into a Digital Signage Network.

The **iCOMPEL** in a Channel can be in different areas of one site (for example a shopping mall) or on different sites (for example at different branches of a chain of shops). You can give **Ad hoc** user access to individuals at different sites so they can make limited changes to the display at their location only. More about Digital Signage networks... 94

1.2 Logging on

To log on to the iCOMPEL, follow these steps.

1. Ensure that the iCOMPEL is connected to the network. Ask your Network Administrator for advice if unsure.
2. Open a web-browser (such as Mozilla Firefox or Microsoft Internet Explorer) in a computer that is also connected to the network.
3. In the Address bar of the web-browser, type in the name or the IP address of the iCOMPEL and press the Enter key. If you do not know the IP address of the iCOMPEL, restart the iCOMPEL and watch the Screen, as the IP address is displayed during start-up.
4. When prompted, enter your username and password. The factory-set default values are `remote` and `9999`.
5. If the username and password are correct, you should now see the iCOMPEL home page in your browser. You are now connected to the iCOMPEL.
6. Add a bookmark for the iCOMPEL home page in your browser for easy retrieval in future.

For more help, see Getting connected 115.

1.3 Using the web interface

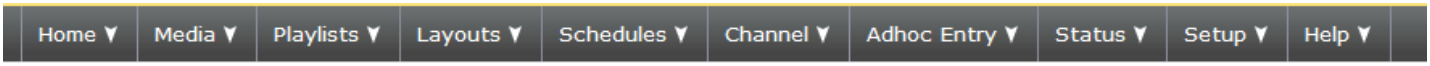
You control the iCOMPEL using a number of pages in your web browser. These pages are known collectively as the iCOMPEL web interface. You can access the web interface through your web browser by typing in the web address for the iCOMPEL (your system administrator can provide this address for you).

Pages in the web interface behave like ordinary web pages. You can use your browser's **Back**, **Forward** and **Refresh** buttons if necessary, as with other web pages.

Some actions are common across many pages in the Web interface.

The Menu bar

The Menu bar lets you select the web interface page you need according to the feature you want to work with.



The Menu bar

You can change the behavior of the Menu bar on the UI Options 115 page.

Using tabbed pages

Many options in the iCOMPEL user interface use tabbed pages

Example of Tabbed pages

To select the options on the tabbed page, click the tab, for example **Add Schedule**.

Action buttons

You can perform common actions with Action buttons.

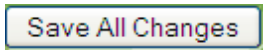
Example of Action buttons

These actions include **Audition** (preview), **Delete**, **Rename**, **Copy** and **Edit** (usually edit properties)

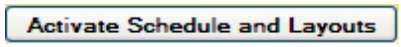
You can use the **Reorder** button to drag items to change their position in a list.

Command buttons

Some general commands also use buttons that are common across many pages of the iCOMPEL interface.



The Save All Changes button



The Activate Schedules and Layouts button

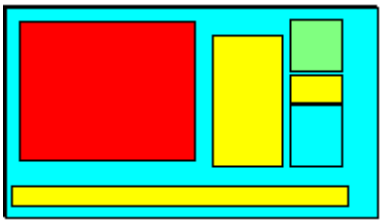
Layout thumbnail view

Layout thumbnail views give an indication of the content displayed by a **Layout**. Clicking on a thumbnail view displays the **Graphical editor** for the **Layout**.

Layout Thumbnail view

Layout icons view

Layout icon views show you the arrangement of **Zones** in a **Layout**. Each **Zone** is represented by a different rectangular icon, and the colors of the icons indicate the **Media players** enabled for each **Zone**. Clicking on an icon displays the **Playlist** for that **Zone**.



Part II

Creating Digital Signage

2. Creating Digital Signage

This section describes how to create your digital signs. If you are new to the iCOMPEL product see Terms you need to know 10 before you begin.

The details in this section apply equally to creating signs for a stand-alone iCOMPEL, and to creating signs for a channel publisher 98.

Select a topic below for more information about:

Schedules 15
Layouts 20
Zones 23
Playlists 29
Files and Folders 43
Media types 35
Enhancing your digital signage 67

2.1 Using Schedules

Your iCOMPEL is designed to run continuously. You control which Layouts 20 are displayed on what days and at which times by creating a **Schedule**. A **Schedule** always contains at least one Schedule Entry 16, which defines at least one iCOMPEL action, that often specifies which Layout to display. A Schedule entry does not necessarily specify a Layout change; it could specify some other action, for example switching the Audio to Mute which Layout to display. A Schedule entry does not necessarily specify a Layout change, it could specify some other action, for example switching the Audio to Mute.

The Schedule Entries define periods of time during which actions occur. The program of Schedule Entries repeats on a weekly cycle. The *Default Schedule Entry* defines the Layout that appears, or the actions that occur, when no other Schedule entry is active.

The iCOMPEL always displays the **Schedule** with the most recent start time. Once a **Schedule** starts running it continues until another Schedule is set to begin, If there is only one **Schedule** it runs indefinitely.

A **Schedule** might have a **Schedule Entry** playing ***Layout*** *X* running from 4:00pm to 6:00pm on Mondays to Fridays, another **Schedule Entry** playing ***Layout*** *Y* running from 2:00pm to 8:00pm on Saturdays and Sundays, and the default **Schedule Entry**, playing ***Layout*** *Z* running at all other times.

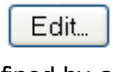
Whenever you make a change to a **Schedule** or **Layout**, remember to click the **Activate Schedule and Layouts** button to implement your changes.

You can temporarily interrupt a **Schedule** by using a Schedule Override 20.

The Schedules page

The **Schedules** page lists all the **Schedules** that have been configured for this channel. To add a new **Schedule** and define its properties, click on the Add Schedule tab 16.

You can use the **Copy** button to copy a Schedule, and the **Delete** button to permanently delete a **Schedule**. Deleting a **Schedule** does not delete any **Layouts** associated with the **Schedule**.

You can view and modify the **Schedule** contents by clicking the **Edit** button 

. You can change the name of a **Schedule** on the **Properties** tab. Each **Layout** change in a **Schedule** is defined by a **Schedule Entry.**

2.1.1 Creating a Schedule

You need to create at least one **Schedule** to display content on your iCOMPEL. You can create additional Schedules if you wish to.

To add a **Schedule**, follow these steps:

1. From the menu bar, select **Schedules**, then **Manage Schedules**.
2. To add a new **Schedule** click the **Add Schedule** tab.
3. Type in a name for the **Schedule**.
4. Enter the date and time for the **Schedule** to start. This setting is not shown for the first B you create.
5. Select the **Layout** for the **Schedule**.
6. Click the **Add Schedule** button.

Schedule Settings

You can define the following settings for a **Schedule**:

Schedule Name

A unique name for the **Schedule**.

Valid From

The date and time to start running this **Schedule**.

All schedules that are have 'Valid From' less than the current time are eligible to play. Schedules that do not satisfy Conditional Play are not considered unless all schedules are Conditional Play and no schedule satisfies Conditional Play. The schedule with the most recent 'Valid From' time will play if it satisfies all conditions.

Valid Until

The Valid Until setting can be:

- **Superseded**. The **Schedule** will play until a more recent **Schedule** that satisfies other conditions becomes eligible.
- **Valid Date**. The Schedule will stop on the specified date, and a more eligible Schedule will be selected. If no eligible Schedule is found, then the current Schedule will continue playing.

A schedule will start on the 'Valid From' time provided there is not another schedule that best matches the conditions. The Schedule will run until it is either superseded or until a 'Valid Until' time.

Show Layout

The **Layout** to show when this **Schedule** is started. You can change this by editing the **Schedule**.

2.1.2 Schedule entries

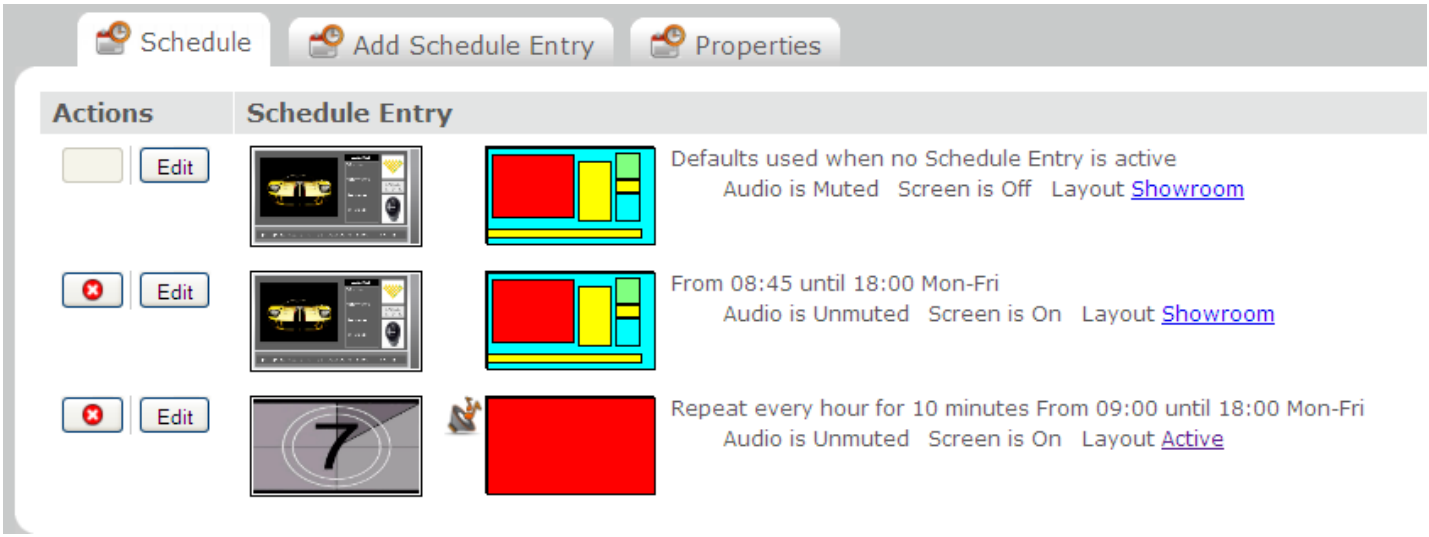
A **Schedule Entry** is a set of one or more actions for the iCOMPEL to perform at specified times. The actions that a **Schedule Entry** can specify are displaying a **Layout**, switching a **Screen** on or off, switching **Audio** on or off, or performing an **Advance To** command. **Schedule Entries** repeat over a weekly cycle. A program of **Schedule Entries** make up a **Schedule.**

The first **Schedule Entry**, which is created automatically whenever you create a new **Schedule**, is the **Default Schedule Entry**, and it does not have a start and end time. The ***Default Schedule Entry*** defines the default states for all the possible actions including which **Layout** is displayed when no other **Schedule Entry** is active.

You can use **Schedule Entries** to create a complex sequence of actions, displaying different **Layouts** at different times of the day and different days of the week, switching the display on and off, or repeating actions at specified intervals.

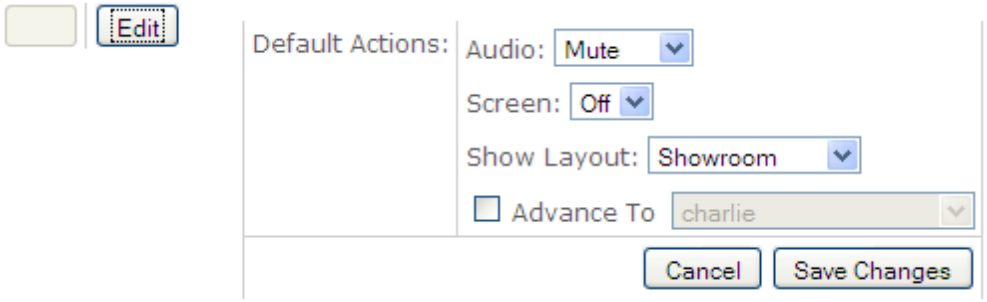
Example Schedule

In this example, the screen is turned on to show the ***Showroom*** **Layout** from 08:45 until 18:00 on Mondays to Fridays, with the ***Active*** **Layout** (which may be a news broadcast) being shown every hour for 10 minutes. At all other times the screen is turned off. This is achieved with a **Schedule** made up of three **Schedule Entries**.


Schedule
Add Schedule Entry
Properties
Actions
Schedule Entry
Edit
Defaults used when no Schedule Entry is active
Audio is Muted Screen is Off Layout Showroom
Edit
From 08:45 until 18:00 Mon-Fri
Audio is Unmuted Screen is On Layout Showroom
Edit
Repeat every hour for 10 minutes From 09:00 until 18:00 Mon-Fri
Audio is Unmuted Screen is On Layout Active

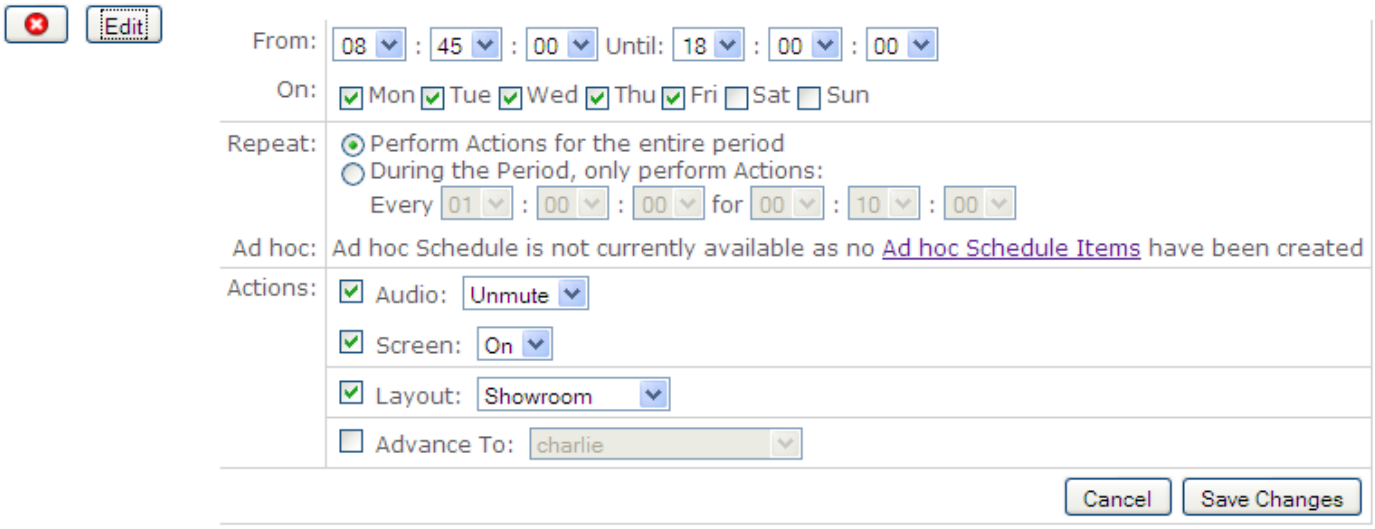
Schedule made up of three Schedule Entries

In the first **Schedule Entry**, the defined actions have the screen turned off and the audio soundtrack muted. This **Schedule Entry** is playing the ***Showroom*** **Layout**, even though the screen is off.



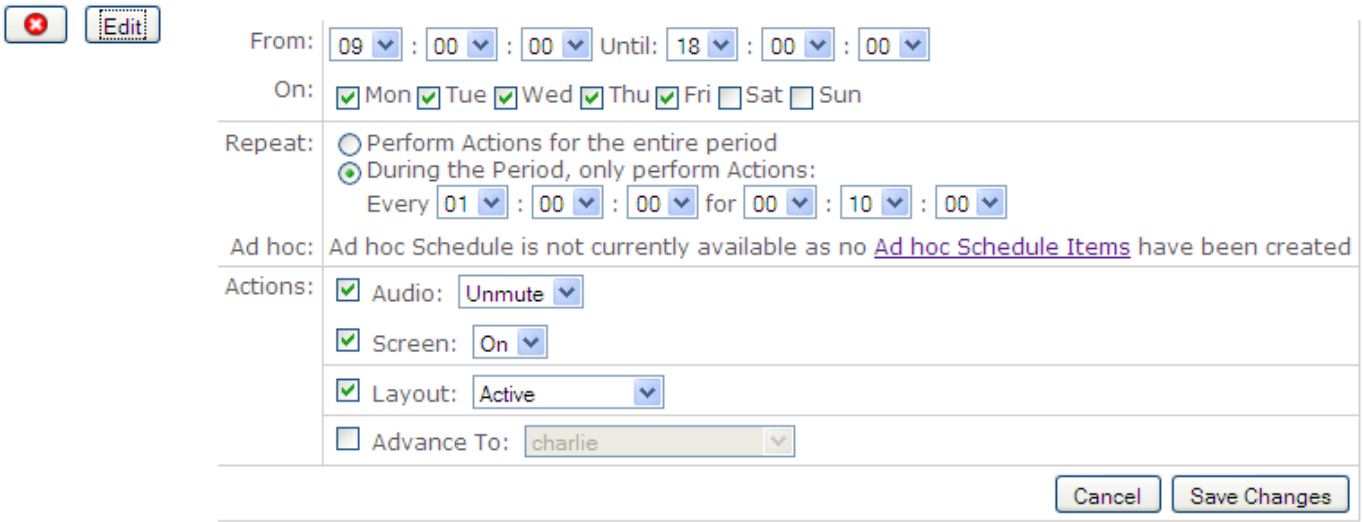
Details of first Schedule Entry

In the second **Schedule Entry**, the screen is on and the ***Showroom*** **Layout** is playing.


Edit
From: 08 : 45 : 00 Until: 18 : 00 : 00
On: Mon Tue Wed Thu Fri Sat Sun
Repeat: Perform Actions for the entire period
During the Period, only perform Actions:
Every 01 : 00 : 00 for 00 : 10 : 00
Ad hoc: Ad hoc Schedule is not currently available as no Ad hoc Schedule Items have been created
Actions: Audio: Unmute
Screen: On
Layout: Showroom
Advance To: charlie
Cancel
Save Changes

Details of second Schedule Entry

In the third **Schedule Entry**, the screen is on and a different **Layout** is shown every hour for 10 minutes.


Edit
From: 09 : 00 : 00 Until: 18 : 00 : 00
On: Mon Tue Wed Thu Fri Sat Sun
Repeat: Perform Actions for the entire period
During the Period, only perform Actions:
Every 01 : 00 : 00 for 00 : 10 : 00
Ad hoc: Ad hoc Schedule is not currently available as no Ad hoc Schedule Items have been created
Actions: Audio: Unmute
Screen: On
Layout: Active
Advance To: charlie
Cancel
Save Changes

Details of third Schedule Entry

Schedule Entry Settings

You can define the following settings for a **Schedule Entry:**

Period

Defines the time window during which the specified Actions 19 are to be applied. The time window starts at **From time** and ends at the **Until time**, and is applied on the specified days of the week.

All times values are expressed in hours : minutes : seconds, and values are selected using the drop down lists.

The time setting 00:00:00 means midnight. If both the **From** and **Until** times are midnight, the specified action runs all day. To set up a time period that runs from before midnight one day through to the following day, you need to set up separate **Schedule Entries** (one ending at midnight, one commencing from midnight).

Repeat

Use this option to restrict the **Schedule Entry** to a repeating time window within the overall Period.

The minimum **Repeat For** duration is 30 seconds. **Repeat Every** must be at least 30 seconds more than the **Repeat For** setting.

To set up a repeating **Schedule** of, for example, three **Layouts** lasting 10 minutes each, you would give the **Layouts** start times 10 minutes apart, repeat intervals of 30 minutes, and durations of 10 minutes each.

Ad hoc

You can define the **Schedule Entry** as an **Ad hoc Schedule** Item. This means that an Ad hoc user 85 can change the **Period** and **Repeat** settings for this **Schedule Entry**. A typical use for this might be in a **Schedule Entry** used to show information during the lunch hour at staff canteens on different sites. The **Ad hoc** user would be able to set the times for the lunch hour on their site, which might differ from the times at other sites. More about Ad hoc content... 67

Schedule Entry Actions

You can specify an Action to take place whenever the **Schedule Entry** begins. You can set the following actions when you create a **Schedule Entry**:

- **Audio** - mute or unmute the Audio soundtrack for the **Layout.** If the Audio is muted, then no sound is heard.
- **Screen** - switch the Screen on or off. You may wish to switch off a screen at times when your building is unoccupied. This means you can allow the iCOMPEL to run continuously and to start displaying content automatically when the building is next open.
- **Layout** - select the **Layout** for the **Schedule Entry**
- **Advance To** - synchronizes the display across different Zones. More about synchronizing the display... 67

The **Advance To** action is not enabled if there are no **Rendezvous Points** defined.

Including a Layout in a Schedule Entry

You can show a particular **Layout** at a specific time of day by creating a **Schedule Entry** for those times and specifying the **Layout.** To add a **Layout** to a **Schedule Entry** follow these steps:

1. *Either*:
   - select **Schedules**, then **Manage Schedules**, and click **Edit** for the **Schedule** you want to add an Layout to.

   or
   - select **Schedules**, then the name of the **Schedule** you want to add a Layout to.
2. Select the **Add Schedule Entry** tab.
3. Use the drop-down lists to enter the start and end times for the **Schedule Entry**, and select or clear the check-boxes for the days of the week. More about Schedule Entry settings... 18
4. Select the **Layout** name from the drop-down list, and select any other Schedule Entry Actions... 19
5. Click **Add Schedule Entry**.
6. On the **Schedule** page, click **Save Changes**.
7. Click **Activate Schedules and Layouts** to make your changes live.

Changing the Layout in a Schedule Entry

To change the **Layout** in a **Schedule Entry** follow these steps:

1. *Either*:

- select **Schedules**, then **Manage Schedules**, and click **Edit** for the **Schedule** you want to work with.

or

- select **Schedules**, then the name of the **Schedule** you want to work with.

2. Click **Edit** for the **Schedule Entry** you wish to change.
3. Enter or change the start and end times for the **Schedule Entry**, and select or clear the check-boxes for the days of the week.
4. Select the **Layout** name from the drop-down list, and select any other Schedule Entry Actions... 19
5. Click **Save Changes**.
6. Click **Activate Schedules and Layouts** to make your changes live.

2.1.3 Overriding the schedule

You may need to override the current **Schedule** at certain times, for example to display special instructions in an emergency, or to show a special event from a TV broadcast feed. You can create a Schedule Override 20 which temporarily replaces the current Schedule. This stops the current Schedule and displays a different **Layout** until you restore the **Schedule** by clicking the **Activate Schedule and Layouts** button.

When an override is in effect, the normal **Schedule** is not run. Although channel subscriptions take place, they are not activated until you click the **Activate Schedule and Layouts** button to return to the normal **Schedule.**

Creating an Override

To create a **Schedule Override**, follow these steps.

1. From the menu bar, select **Schedules**, then **Manage Schedules**.
2. Click the **Add Override** tab.
3. Type in a name for the **Override**. The **Override** name should be descriptive, for example, *Emergency Instructions*, or *Special TV Event.*
4. Select the **Layout** for the **Override**, and click **Add Override**.

Activating an Override

To activate an **Override**, follow these steps:

1. From the menu bar, select **Schedules**, then **Manage Schedules**.
2. Click the **Override** tab.
3. Click the **Activate** button for the **Override** you want to use.

   The override **Layout** is displayed immediately, and continues to be displayed until you re-activate the normal **Schedule** by clicking **Activate Schedule and Layouts**.

Override Settings

An **Override** specifies the **Audio**, **Screen** settings and **Layout** that is shown while the **Override** is active.

2.2 Using Layouts

A **Layout** is an arrangement of various different display areas, called **Zones** 23, that are displayed together. Your **Layout** may include video in one Zone, scrolling text in another Zone, and a sequence of still images in a third Zone. You may also have a **Zone** that is the same size as the **Layout** that contains a background image, on which all the other **Zones** are superimposed. Your audience sees everything in your **Layout**, so you need to take care to design Layouts that are appealing and effective.

By default, the iCOMPEL names the **Zones** for each **Layout** on the screen in the order in which they were created in alphabetical order (Zone A, B, C and so on). You can change the relative display positions of the **Zones** in a **Layout**.

Each **Zone** can display Media items of different types, according to the media player or players that have been enabled for the **Zone**.

The iCOMPEL **Screen Background** is visible in any part of the **Layout** that is not covered by a **Zone**. You can define the color or image for the screen background independently of any **Layout**.

2.2.1 Layout Page

The Layout page shows all the **Layouts** available on this iCOMPEL. For each **Layout** you can see a thumbnail image (if the Layout has been used), a diagram of the **Layout's Zones**, the name and description of the **Layout**, and if applicable, the names of the **Schedules** that use the **Layout**, the names of any **Rendezvous Point** or **Change Layout** commands and a link to the **Ad hoc Page** for the **Layout**. There are also icons to show if an audio **Soundtrack** is enabled and if touch-screen interactivity is enabled .

Click the name of the **Layout** , or click the thumbnail, to open the graphical Layout editor, or to work with the Layout's properties. Click a Zone in the Layout diagram to go directly to the Playlist for the Zone.

There are also the following action buttons for each Layout:

Audition a **Layout** (preview on the Screen, or preview a web page in a browser where appropriate)

Delete a **Layout**

Rename a **Layout**

Copy a **Layout**

Edit a **Layout**

Note: You cannot delete a **Layout** that is being used by a **Schedule**, even if that **Schedule** is not currently active. If the Layout is in use, the name of the **Schedule** using it is shown in the notes alongside the Layout.

You can reduce the number of **Layouts** that are displayed by applying a filter. Click **Filter** and enter the name or part of the name of a Layout, and click **Apply**. Click **Show All** in the **Filter** dialog to clear the filter.

2.2.2 Adding a new Layout

To add a new **Layout**, follow these steps

1. From the menu bar, select **Layouts**, then **Manage Layouts**.
2. To add a new **Layout**, click the **Add Layout** tab.
3. Type in a name for the new **Layout** and click **Add**.
4. Scroll to your new **Layout** in the **Layouts** list and click **Edit.**
5. Use the graphical Layout editor (GLE) to add one or more **Zones** and to set the properties for each **Zone.**

Remember to click **Save all Changes**, otherwise your changes are lost when you leave this page.

Editing a Layout

More about Zones

More about Playlists

2.2.3 Editing a Layout

The **Layout** page lets you create a Layout, add Zones to a Layout and change the arrangement of Zones, and lets you edit the content and behavior of individual Zones. More on Editing Zones... 26

The Layout page has three tabs: Zones 24, Layout Properties 22, and Interaction 70, and two floating toolbars, Zone List 26 and Zone Properties 27.

You can use the Zone List 26 to select a specific **Zone** and to change the display order of Zones. 26

The **Zones** tab displays the graphical Layout editor 24.

To edit a **Layout**, follow these steps

1. From the menu bar, select **Layouts**, then **Manage Layouts**.
2. Click the **Edit** button for the Layout you wish to edit.
3. In the **Select Action** pop-up dialog, click **Edit Layout** or click the name of a **Zone** to start editing that Zone directly 26.

2.2.4 Layout properties

You can define the following properties for a Layout.

Description

You may enter a free text description of the Layout. The description is displayed on the Layouts page.

Layout Ad hoc Page

If enabled, the Ad hoc Page will be created automatically when this Layout contains Ad hoc Items and deleted when it does not. Ad hoc Items are added or removed from the Ad hoc Page as they are added or removed from the Playlist of any Zone in this Layout.

Plasma Burn Mitigation

Select this check box to enable Plasma Burn Mitigation, which automatically moves Zones at regular intervals to help reduce burn-in on certain types of screen. Plasma Burn Mitigation does not change the media displayed, it simply changes the locations of Zones in the Layout.

If this check box is selected, you can also select:

- a scheme to define how the Zones move (swap sides from left to right, swap halves from top to bottom, or rotate through all four quadrants of the screen).
- a time interval (in hours minutes and seconds). The minimum time interval is 1 minute.

Soundtrack

The **Soundtrack** is a special type of **Zone** used for playing Audio tracks from files or external sources. You can only have one Soundtrack for each Layout. Select this checkbox to enable a **Soundtrack**.

Editing Layout properties

To edit a **Layout's**, properties follow these steps

1. From the menu bar, select **Layouts**, then **Manage Layouts**.
2. Click the **Edit** button for the Layout you wish to edit.
3. In the **Select Action** pop-up dialog, click **Edit Layout**.
4. Click the **Layout Properties** tab, which allows you to:
    - enter a description for the Layout.

- enable this Layout's Ad hoc Page
- enable plasma screen mitigation 75 for the Layout
- add a Soundtrack 23 to the Layout

5. Click the **Interaction** tab to set touch screen interaction properties 70.
6. Click **Save all changes** to make your changes permanent.

See also Editing a Zone's properties

2.2.4.1 Adding a soundtrack to a Layout

To add a Soundtrack to a **Layout's** properties, follow these steps

1. From the menu bar, select **Layouts**, then **Manage Layouts**.
2. Click the **Edit** button for the Layout you wish to edit.
3. In the **Select Action**, pop-up dialog click **Edit Layout**.
4. Click the **Layout Properties** tab.
5. Click the checkbox for **Include Soundtrack**.
6. Click **Save all Changes**.

The Default Media setting defines whether the soundtrack uses the sound files in the Media/Default folder. You can change the files in this folder.

2.2.5 Interaction Properties

The Interaction allows the user to define how this Layout will respond to Touch screen and general purpose Input/Output events.

Please refer to the following sections for more information:

Layout Interaction events 74

Click on Touch 74

NOTE some options on this page may require a feature unlock key.

2.3 Using Zones

Your **Layout** is made up of a number of defined rectangular areas known as **Zones**. Each **Zone** can display **Media items** 35. You can decide on the number of **Zones** in your Layout, their sizes, and where they are placed. It is often convenient to use different **Zones** for different media types, with one for scrolling text, one for a promotional video, and so on. However, any Zone can display any media type as long as the appropriate media player 35 has been enabled for that **Zone**.

Each **Zone** can display a sequence of media items that you have chosen and arranged into a **Playlist** 29.

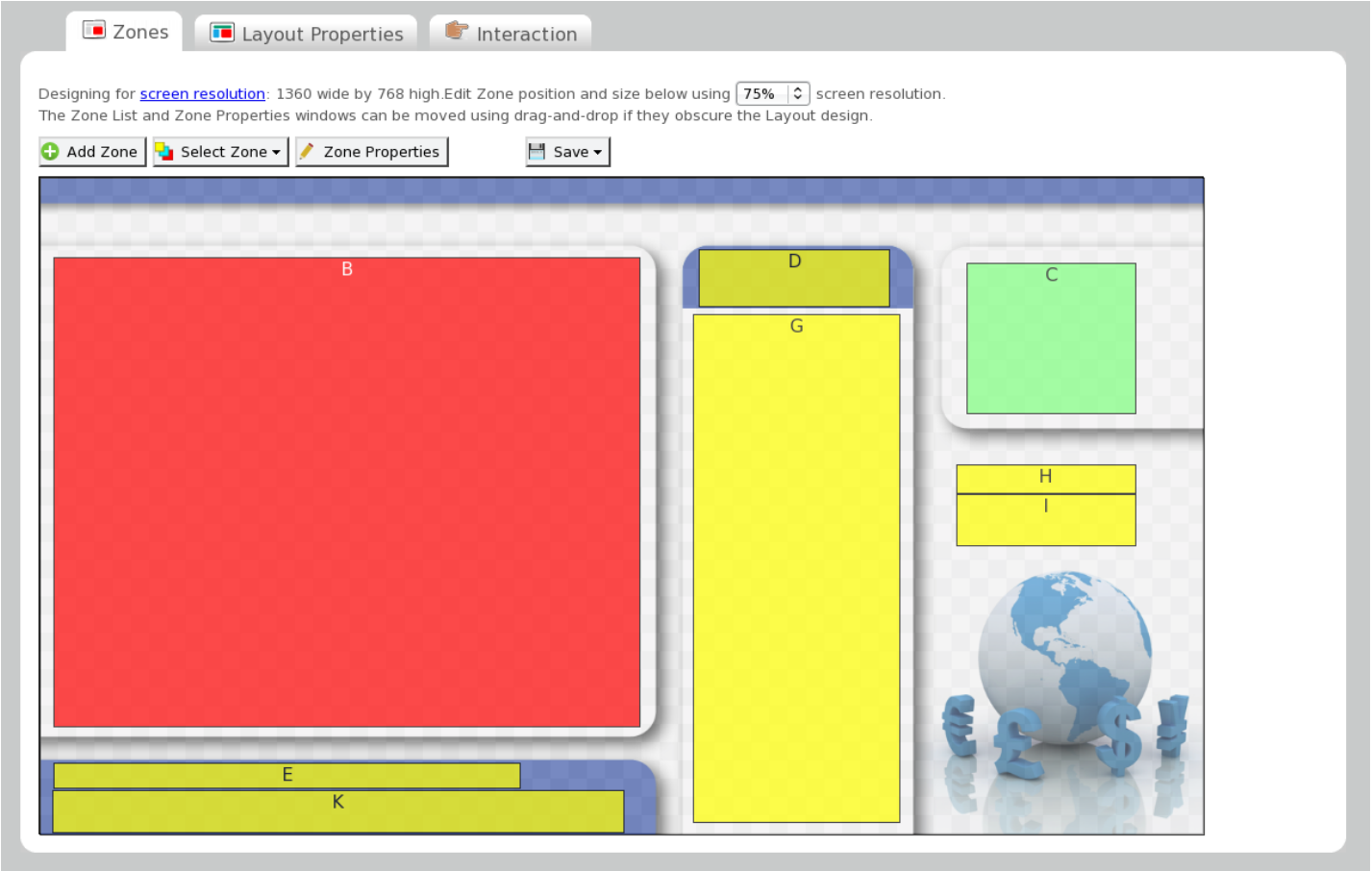
Editing a Zone 26

Editing a Zone's properties 27

2.3.1 The Layout editor

You can create and manage the **Zones** in a **Layout** directly using the graphical **Layout editor**. From the menu bar, select **Layouts**, then click the **Layout** you want to edit. Then select the **Zones** tab

The **Zones** tab on the **Layouts** page is a graphical editor that you can use to adjust the position and size of each **Zone** in the **Zones Tab** directly, using your mouse.



The graphical Layout editor

By default, the **Zones** tab displays the **Layout** at 75% of the currently defined **Screen** resolution (not the monitor of your PC). You can change this by using the **Scaling** drop down at the top of the page. It may be helpful to expand your browser to full-screen view. In many browsers, including Microsoft Internet Explorer and Mozilla Firefox, the F11 key toggles between full-screen view and normal view.

In the graphical **Layout editor** each **Zone** is displayed in a color indicating the **Media player** enabled for the **Zone**:

- Red - Movie player (for example, Zone B above)
- Light green - HTML player (for example, Zone C above)
- Light blue - Image player
- Dark green - Presentation player
- Yellow - Text player (for example, Zone G above)

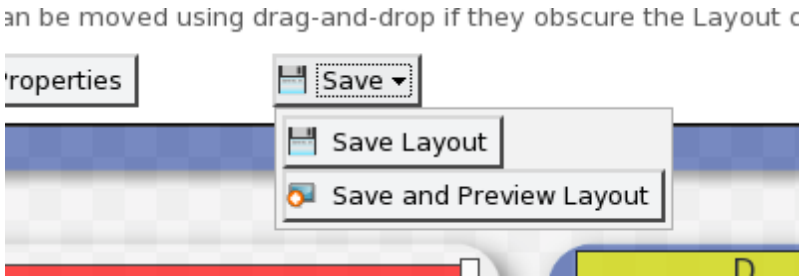
To select a **Zone**, click it once with your mouse. The selected **Zone** is shown with *handles* (such as Zone B in the illustration above). To move the **Zone** click and hold the mouse button and drag the Zone. To resize the Zone, click it once then click and drag one of the handles.

When you select a **Zone** to edit it, it appears in the foreground, all its drag handles are visible, and it can be easily manipulated.

Zones in this editor are displayed with a slight transparency e.g. to aid in aligning with background images. The opacity of a Zone on this page is no indication of how it will appear on screen when being played.

Saving your layout

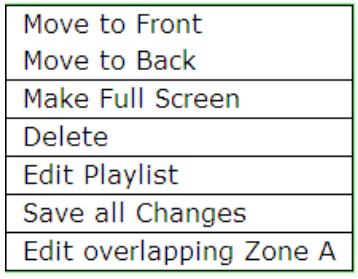
Your changes to the layout are not saved until you press the save button. Here you have two choices:



Pressing the Save button reveals the Save options

- **Save Layout** - Simply saves the current layout.
- **Save and Preview Layout** - Saves the layout *and* causes the layout to be previewed on the display device.

Zone context menu



Zone context menu

Right-click a **Zone** to display a context menu with common functions, including editing access to other Zones that may be hidden by this **Zone**.

You display **Media items** 35 in a **Zone** by adding them to a **Playlist** 29.

Editing a Zone 26

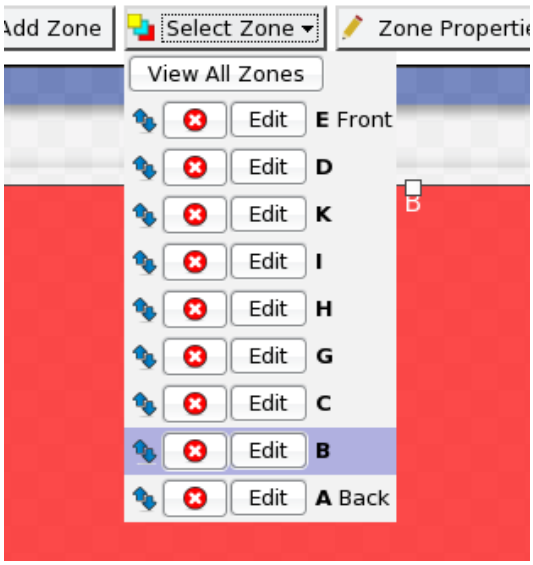
Editing a Zone's properties 27

2.3.2 Editing a Zone

To edit a **Zone's** properties, select it, then press the **Zone Properties** button.

You can either simply click on a **Zone** to select it or use the **Select Zone** dropdown to select a **Zone**.

Select Zone



Select Zone list

Clicking on the **Select Zone** button will show a list of zones in the current layout. The currently selected zone is highlighted.

The **Edit** button will select a zone and close the select zone panel. Alternatively the panel can be closed by clicking the **Select Zone** button again or elsewhere on the page.

Adding and deleting a Zone

Click the **Add Zone** button to add a new **Zone**.

After you create a Zone, edit the Zone's properties 27, and then open the Playlist 29 for the Zone to add media items to display.

To delete a Zone, click the **Delete** button for that **Zone** on the **Select Zone** list.

Changing the display order of Zones

You may wish to change the display order of zones - i.e. the order in which they are shown on the screen. For example, you may wish for a background image to be at the back of a layout and content to be shown at the front.

This is achieved either by opening the **Select Zone** menu and dragging zones by its zone name, or by using the context menu and selecting the appropriate "Move" option from the list.

Editing a hidden Zone

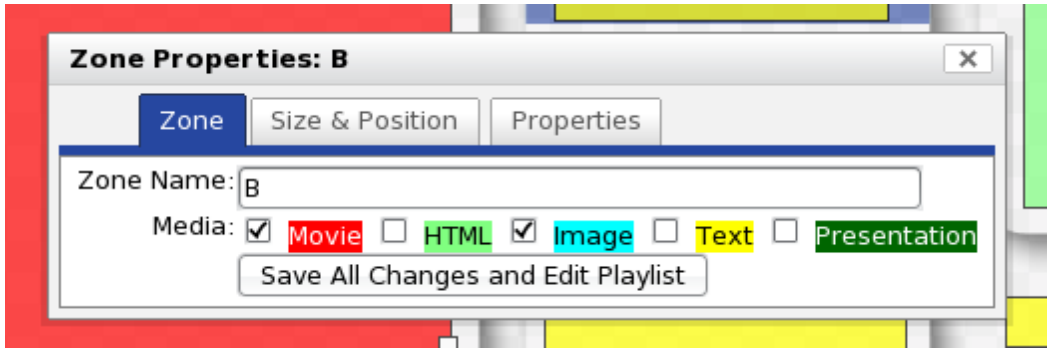
Sometimes a Zone can be completely hidden by another Zone. To edit a Zone that's hidden, either click Edit next to the Zone on the Zone list dialog, or right-click the top Zone, and select edit for the required Zone from the context menu.

2.3.3 Editing a Zone's properties

A **Zone's** properties consist of:

- The Zone name
- The media types it plays
- Zone size and position
- Other assorted properties

When you've selected a Zone within the layout editor, pressing the **Zone Properties** button will show a popup dialog that will allow you to set the properties of the selected Zone:



The Zone properties Dialog box

You can move the dialog around the screen by dragging it by its title bar. You can close it again by pressing the close button on its top right.

The Zone properties have been grouped into tabs - you can select a tab by clicking the name.

Zone Tab

Zone Name

By default, zones are given letters to identify them. If you wish, you can instead give them names that will remind you of what the zone is for. For example "Clock", "Movies" or "Newsfeed".

The Zone Name is shown everywhere within the web interface when you are on a page specific to a zone e.g. the playlist edit page.

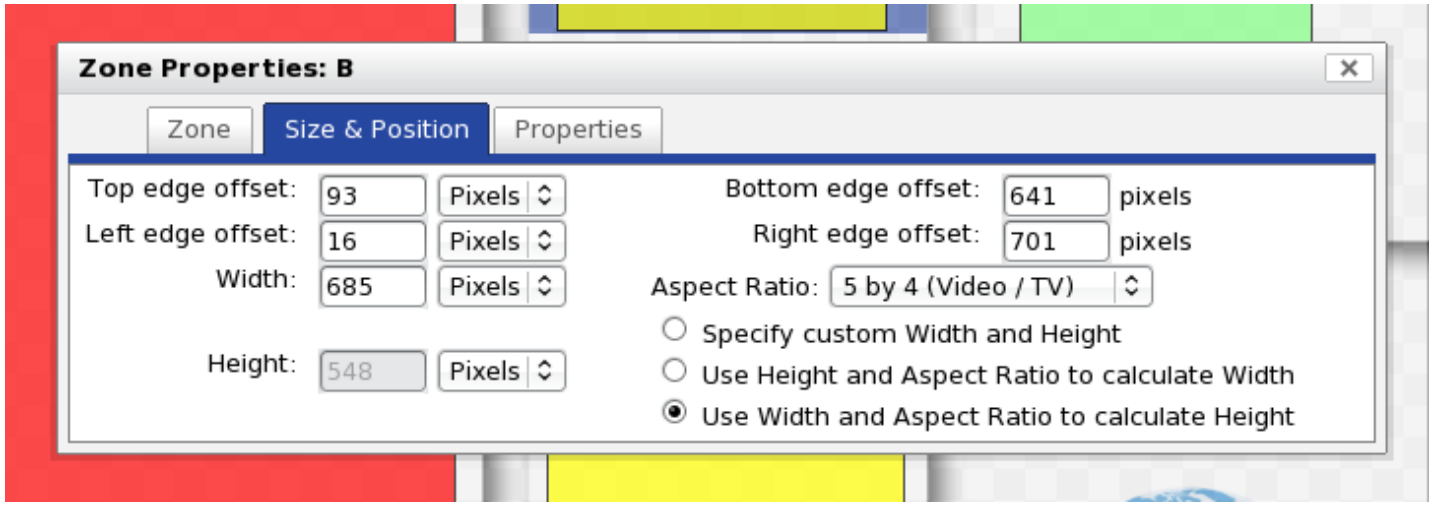
Media

Select the check box or boxes for the Media type or types allowed in this Zone. See more on Understanding Media Types... 35

Save All Changes and Edit Playlist

This button will save all changes to the layout and take you to the playlist editor page 29 for that zone.

Size & Position Tab



Position

The position values are expressed in Pixels or in Percentages, and all measurements are taken from the top edge or the left edge of the screen. Remember that if you use Pixels for positioning, the Zone may appear in a different position on two screens with different resolutions.

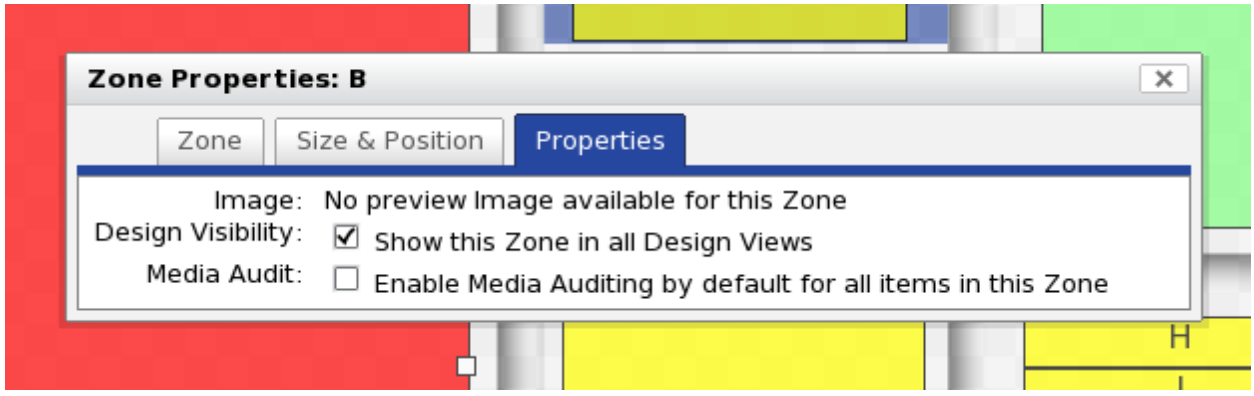
Size

Size values are given in Pixels or Percentages. If you enter a value with its units, such as 225px, the unit type is adjusted automatically.

Aspect Ratio

When working with Movie or image enabled Zones, you can select either **Use Height and Aspect Ratio** or **Use Width and Aspect Ratio** to determine the Zone size. Select from the Aspect Ratio drop-down to automatically adjust the **Zone** size to preserve the height-to-width ratio for common video and image formats. You can only use Aspect Ratio when Height and Width are specified in Pixels.

Properties Tab



Image

If the Zone is set to show images, then the first image item in the playlist can be shown in the Zone instead of the standard colored area. This is useful e.g. to preview background images and align other Zones to them.

This option will not be available if this zone does not play images or has no images.

Design Visibility

This check box defines whether the Zone is shown in the Layout Icon views Zones. If a Zone covers other Zones, you can clear this checkbox so that it is not shown in the thumbnails, making it easier to edit the other Zones.

Media Audit

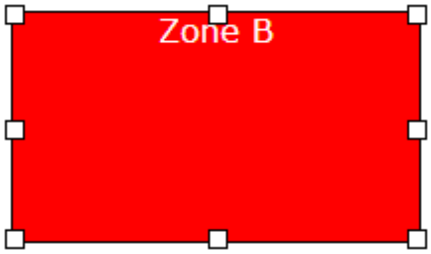
This checkbox determines whether or not items in this Zone's Playlist are by default logged for Media Auditing. This setting can be overridden on a per item basis in the Playlist.

For more information see Reporting 131.

Changing the size or position of a Zone

To select a **Zone**, click the **Edit** button for the **Zone** in the **Zone List**, or click on the **Zone** in the **Layout** itself.

Use your mouse to move the **Zone** by dragging it. You can change the size of the **Zone** by clicking and dragging one of the sizing handles indicated by small white squares on the edge of the **Zone**.



Zone showing sizing handles

You can control the size and position of a **Zone** more precisely using the **Zone Properties** 27 dialog. Use the Zone Properties dialog to select the Media players for a Zone, and to edit the **Playlist** 29 for a Zone (where you add **Media items** 35).

2.4 Using Playlists

A **Playlist** is a sequence of **Media items** 35 that you have chosen for display in a **Zone** 23. Each **Zone** has its own **Playlist** which runs continuously, and is independent of all the other **Playlists**. A **Soundtrack** also has its own **Playlist**.

Playlists play their content in a continuous loop. After the last item has been played, the first item starts playing again. It is possible that the media file you specified may no longer be available, and if so it may be skipped.

A **Playlist** can contain:

- individual content files, such as images, or movies, or text. More on adding individual item files to a Playlist... 31
- folders, containing multiple individual items, displayed by the Folder Play 50 mechanism More on adding folders to a Playlist... 32
- certain types of content known as **Special Items**, such as a Newsfeeds, TV Stations, Tables, and Clocks. More on adding Special Items to a Playlist... 31
- various Ad hoc Items 79 that can be updated directly by local users

The Playlist page

The **Playlist** page is divided into a number of tabs:

- **Playlist** - lists the media items that make up the Playlist.
- **Files & Folders -** for navigating between folders, moving files between folders, and adding files to the Playlist.
- **Upload Files -** for copying files to the iCOMPEL, and creating new folders.
- **Specials** - for adding Special items to the Playlist, that include all items other than files and folders.
- **Defaults** - to control the default settings for various types of media items, used when they are first created. These can be modified later. Changing the default values does not affect existing items.

You can set the **Playlist Add Item** property on the Options page 115 to control whether a new item is added to the bottom (default) or top of a Playlist.

Your browser may support dragging and dropping 152 files straight from your desktop or file explorer into a playlist.

Playlist tab

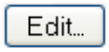
The Playlist tab displays a list of all the media items in the Zone or Soundtrack. Each item is played in turn for the specified Duration.

If graphical Layout editing is enabled you can change the order of the media Items by Dragging and Dropping ( ) the rows

There are also the following action buttons for each item:

Audition an Item (preview on the Screen)

Delete an Item

 Edit 57 an Item's properties

File & Folders

You can use the Folder & Files tab to navigate between Folders and to find items or folders to add to the Playlist. Add an item by clicking the Add button alongside it. See Using Files and Folders 43 for more information

Upload Files

You can use the Upload Files tab to upload new media files, and to create new sub-folders.
See Uploading content 44 files for more information.

Specials

Use the Specials tab to add iCOMPEL specific media items to the Playlist.
See Adding Special items to a Playlist 31 for more information.

Defaults

You can use this tab to define the default media item properties for each Media type this Zone or Soundtrack supports. The default properties are used when the media item is first added to a Playlist, and you can change them as needed for each item.

See Edit Playlist item properties 57 for more information.

NOTE: Changing the default properties does not affect media items already added to a Playlist.

2.4.1 Adding Media item files to a Playlist

Before you can add individual media item files to a **Playlist**, you need to upload them to the iCOMPEL. (Some types of media, such as live TV or Web site feeds, do not need to be uploaded.) See Using Files and Folders 43 to learn about uploading and managing media item files.

The type of media file that you can add to a **Playlist** depends on the type of media that the Zone is able to play. See Understanding Media Types 49 for further details.

To add an item to a **Playlist**, follow these steps:

1. From the menu bar, select **Playlists**, then select the **Layout** and the **Zone**.
2. Select the **Files** and **Folders** tab.
3. Click the name of a **Folder** to display the items in it.
4. Click the **Add** button alongside the item you want to add to the **Playlist**.
5. Select the **Playlist** tab to view the **Playlist**. If necessary, adjust the order of the items in the **Playlist**.

2.4.2 Adding Special items to a Playlist

Various special items can be added to a **Zone's Playlist**. Special items include text, Newsfeeds, live video, web pages, clocks, and tables as well as control elements for touch screen and other kinds of interaction, if these are supported by your display.

The iCOMPEL only allows you to add **Special** items that are supported by the media player enabled for the **Zone**. For example, you can only add a Newsfeed if the Zone is enabled for the **Text** player, and you can only add a live video special item if the **Zone** is enabled for the **Movie** player.

Some special items such as Newsfeeds 36, Tables 39, and TV Stations 52 need to be set up before you can add them to a **Playlist**. Other special items, such as directly entered Text 35, external Web pages 56, and Clocks 38 do not need to be set up in advance.

To add a **Special item** to a **Playlist**, follow these steps:

1. From the menu bar, select **Playlists**, then select the **Layout** and the **Zone**.
2. Select the **Specials** tab.
3. Click the **Add** button alongside the **Special** item you want to add to the **Playlist**. Depending on the item in question, you may need to add text or select properties.
4. Select the **Playlist** tab to view the **Playlist**. If necessary, adjust the order of the items in the **Playlist**.

2.4.3 Adding folders to a playlist

If you add a Folder to a Playlist, the iCOMPEL treats the Folder as an item in the Playlist. You can define the way the items inside the Folder are displayed, see Folder Play 50 for more details.

Before you can add a **Folder** to a **Playlist**, make sure that it contains the media items you want to use. See Using Files and Folders 43 to learn about uploading and managing media item files.

To add a **Folder** to a **Playlist**, follow these steps:

1. From the menu bar, select **Playlists**, then select the **Layout** and the **Zone**.
2. Select the **Files and Folders** tab.
3. Click the **Add** button alongside the **Folder** you want to add to the **Playlist**.
4. Select the **Playlist** tab to view the Playlist. If necessary, adjust the order of the items in the **Playlist**.

2.4.4 Playing content items to test them

There are various ways of playing content items to test them:

- Activate a **Layout** and view it on the **Screen**. This is useful if you want to see the complete run of all items, and you can easily view the **Screen**.
- Audition **Layouts**, **Playlists** or individual items on the **Screen**. This is useful if you want to see individual items, and you can easily view the **Screen**.
- Take a snapshot of the **Screen** and view it in your web browser. This is useful if you want to see the current status of the display but cannot easily view the **Screen**.
- Preview an item in your web browser. This is useful if you want to see one particular item but cannot easily view the **Screen**.

Activate a Layout and watch it on the Screen

To activate a **Layout** and view it on the Screen, follow these steps:

1. Select **Layouts** from the menu bar, and then **Manage Layouts**.
2. Select the **Layout** you want to view and **add it to the current Schedule** 16.
3. Click **Activate Schedules and Layouts** .

Audition Layout, Playlist or item on the Screen

To audition a **Layout** on the Screen, follow these steps:

1. Select **Layouts** from the menu bar, and then **Manage Layouts**.
2. Click the Audition button for the Layout you want to view. The Layout is shown on the Screen until you click **Activate Schedules and Layouts**. Alternatively, click on a Zone in the Layout preview, and then click the audition button for the item you want to view.

Take a Screen snap shot

To take a screen snap shot, follow these steps:

1. Select **Status** from the menu bar, then **Player Status**.
2. Select the **Screen Snap Shot** tab. The iCOMPEL automatically takes a screen snap shot and displays it in your web browser. Video content may appear as a solid black rectangle.
3. Optionally, select the **Refresh...** check box and click **Apply**.

Previewing in the web browser

To select the web browser as the preview medium, follow these steps:

1. Select **Setup** from the menu bar, and then **UI Options**
2. Under **Audition** method select **Web preview**
3. Click **Save Changes**
4. Select **Layouts** from the menu bar, and then **Manage Layouts**.
5. Click the **Preview** button for the **Layout** you want to view.

The Screen goes black for a moment while the screen snapshot is taken, and then reverts to the current Layout. The snap shot is displayed in a new browser window (or browser tab).

Part III

Understanding Media Types

3. Understanding Media Types

You can use various types of digital content with your iCOMPEL.

Media players

Content is often referred to as Media. There are five basic media player types that can be enabled for a **Zone** which are:

- Movie player (content types include **Video**[45], **TV**[52], **Live Video**[54], and **Multicast Video (IP TV)**[55])
- HTML player (content types include **Web Pages**[56], **Flash**[50], and **Tables**[39]),
- Images and photos player (**Images**[46])
- Text player (content types include **Text**[35], and **RSS News Feeds**[36], **Clocks**[38])
- Presentation player (**PowerPoint**[49])

You must enable the correct media player for the **Zone** in order to display the media.

In addition to these players, you can add audio to the Layout using the Soundtrack player (**Audio**[48], **Radio**[53]).

iCOMPEL behavior and media types

Understanding the ways that different types of content items are managed by the iCOMPEL can help you know how to add and manage different types of media items.

- Items directly managed by the iCOMPEL[35] include: Newsfeeds[36], Clocks[38], Tables[39], directly entered Text[35] and RS-232 output signals[41]
- Items displayed from files on the iCOMPEL's hard disk[42] include: Video[45], Text files[46], Images and photos[46], Audio[48], PowerPoint[49], Flash files[50], and Folder play[50]
- Items that are run from external sources[52] include: TV[52], Radio[53], Live Video[54], Multicast video[55] and Web pages[56]

3.1 Media managed by iCOMPEL

Some types of media are managed directly by the iCOMPEL. These include:

Newsfeeds[36]

Clocks[38]

Tables[39]

Text[35]

RS-232 output items[41]

Ad hoc content[79] items are also managed by the iCOMPEL.

3.1.1 Text

Player Type	Text

This section deals with text items entered directly on the iCOMPEL.

For other uses of text see:

Text files[46]

Newsfeeds[36]

Text characteristics

- Text can be added to a **Playlist** and shown in a **Zone** on the **Screen**.
- The text can be either scrolling or stationary, and can scroll either horizontally or vertically.
- Stationary text can be shown for a fixed period of time, or shown indefinitely.
- If text is scrolling, you must set the speed at which it moves across the screen. You cannot set a fixed time limit for scrolling text.
- Text can have a transparent background, but the text must be static unless it is being shown over a video Zone. This option is not available on all models of iCOMPEL.

Adding text directly

To add text directly, follow the steps for adding Special items to a Playlist 31. After you add the text, it appears on the Playlist. Use the arrows to adjust the position of the text in the Playlist, as necessary. Click **Edit** to edit the text properties 58 as required

3.1.2 Newsfeeds

Player Type	Text
Supported formats	RSS 0.91 and 2.0 (must say "RSS" or "XML")

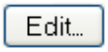
A **Newsfeed** is a form of online content, usually providing news headlines or brief reports, supplied by a broadcaster or news agency, that you can subscribe to. **Newsfeeds** are often provided free of charge, and usually don't require usernames or passwords. Some Newsfeed providers have their own terms of use that may restrict the use of their feeds in Digital Signage Networks. Newsfeed providers include The BBC, CNN, Reuters, Associated press, major online newspapers, and many other organizations.

Newsfeeds generally use the ***RSS*** (Really Simple Syndication) technology, indicated by the symbol. This makes subscribing very easy.

Although Newsfeeds are derived from an external source, your iCOMPEL treats them in the same way as directly entered text. You can easily add **Newsfeeds** to your iCOMPEL, and display them as fixed or scrolling text using a text Zone in your Layouts

Newsfeeds Page

Select **Media**, then **Newsfeeds** from the menu bar to open the **Newsfeeds** page.

To view or modify **Newsfeed** properties, click the **Edit** button 

.

To remove a **Newsfeed**, press the **Delete** button .

NOTE: You can only delete a **Newsfeed** that is not in use. If a **Newsfeed** is in use, the **Delete** button is disabled. To find out which items are using a Newsfeed, click the **Edit** button and see the items listed under the **Used By** property.

To create a new **Newsfeed**, click the **Add Newsfeed** tab.

Additional Requirements

The iCOMPEL must have access to the Internet (or the network where the RSS feed is hosted)

Adding a Newsfeed

To subscribe to a **Newsfeed**, follow these steps

1. Use a web browser on your PC to find the feed you want to subscribe to.
2. Click the link to the feed, or click the RSS button .
3. Copy the web address for the **Newsfeed** from the Address bar in the browser.
4. On the iCOMPEL, select Media, then **Newsfeeds** from the menu bar to open the **Newsfeeds** page, and select the Add **Newsfeed** tab.
5. Enter a logical name for the feed (for example UK Sport Headlines), and then paste the **Newsfeeds'** web address you copied earlier.
6. Click **Add**.
7. Optionally use the **Edit** button to display and edit the Newsfeed properties.

Adding a Newsfeed to a Playlist

Before you can add a **Newsfeed** to a **Playlist** you need to subscribe to a **Newsfeed** as described above.

To add a **Newsfeed** to a **Playlist**, follow the steps for adding Special items to a Playlist 31.

After you add the **Newsfeed**, it appears on the **Playlist**. Use the arrows to adjust the position of the Newsfeed in the **Playlist**, as necessary. Click **Edit** to edit the properties as required. You may be able to show the headlines only, details only or both. You may also want to show the headline in one **Zone** and the details in another **Zone** and use Zone synchronization 67 to keep the displays aligned.

Newsfeed item properties

When you create or edit a **Newsfeed**, you can set the following properties:

Name

You must specify a name for every **Newsfeed** and the name must be unique.

RSS Newsfeed URL

Type in the web address (URL) used to access the **Newsfeed**. This must include the protocol, for example, `http://` . An example of a correctly formatted web address would be `http://www.bbc.co.uk/travelnews/tpeg/en/pti/pti_rss.xml`

Refresh Interval

The frequency at which the iCOMPEL checks for changes to the **Newsfeed**. This frequency is expressed in days, hours, minutes and seconds.

Maximum Age

The length of time that news items should continue to be displayed if the iCOMPEL cannot connect to the **Newsfeed** URL. This length of time is expressed in days, hours, minutes and seconds.

Authentication

Some **Newsfeeds** require authentication, such as a username and password. If the **Newsfeed** you are connecting to requires authentication details, enter them here.

Proxy

If you are connecting to the **Newsfeed** through a proxy server, enter the details here.

Note: Before you can access a **Newsfeed** through a proxy, you must first create a Proxy entry (using the HTTP Proxy page) and then set each Newsfeed to use the Proxy.

Newsfeed Playlist properties

When you add a **Newsfeed** to a **Playlist**, you can adjust the following properties for each **Newsfeed**:

Fields

Select which **Newsfeed** fields to display.

Item Selection

Select the number and sequence of the items to be shown.

Item Synchronization

Set whether this feed is the Master (gives synchronization instructions) or Slave (follows received synchronization instructions) (see Synchronizing Playlist displays between Zones) 67

See also:

Text properties 58
Opacity 60
Position and Size properties 60
Time validity 60

3.1.3 Clocks

Player Type	Text

You can display a digital clock, showing the date and time in any one of a variety of formats, in any Zone that supports Text.

Earlier versions of product supported clocks in HTML Zones. If you already have HTML based clocks in your Layout you can continue to use them.

Adding a Clock to a Playlist

To add a clock to a **Playlist**, follow the steps for adding Special items to a Playlist 31. After you add the Clock, it appears on the Playlist.

In the Playlist tab, click **Edit** to edit the properties as required.

Clock Properties

When you add a **Clock** to a **Playlist** you can use the clock options to determine what clock data is displayed, and the format for dates and times, as well as selecting the time **Zone**.

Display content

Select whether date, time, or both are displayed and in which order.

Day of week format

Select the way the day of the week is shown.

Date, Month, Time, Hour Format

Select the way the **Date**, **Month**, **Time** and **Hour** are shown.

The term *Locale Appropriate* means that the iCOMPEL uses the date or time formats used in the language and country you selected on the International 142 settings page.

Time Zone

Select the appropriate time Zone for the clock display.

Other settings include:

Duration 60

Position and Size properties 60

Time validity 60

Fonts 65

Colors 64

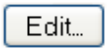
3.1.4 Tables

Player Type	HTML

Tables are a convenient way of displaying static data on the iCOMPEL. Tables can also be used as the basis for Ad hoc entries that are controlled by local users. For example, you may create a table that shows room allocations for a conference center. The iCOMPEL creates **Tables** directly, using HTML. This means that **Tables** can only be displayed in **Zones** that permit HTML content.

Tables page

Select **Media**, then **Tables** from the menu bar to open the **Tables** page.

To view or modify **Table** properties, click the **Edit** button 

. The only properties of a Table that can be changed are the data values in the Table cells (through the Table Values 40 tab), and the formatting of the Table cells (through the Table Styles 41) page.

To rename an existing **Table**, click the rename button and type in a new name.

To copy a **Table**, click the **Copy** button and type in a new name.

To remove a **Table**, press the **Delete** button .

NOTE: You can only delete a **Table** that is not in use. If a **Table** is in use, the **Delete** button is disabled. The items are using a **Table** are listed under the **Used By** property.

To create a new **Table**, click the **Add Table** tab.

Additional Requirements

The maximum size for a **Table** supported by the iCOMPEL is 19 rows by 39 columns.

NOTE: You cannot change the size of a **Table** after you create it.

Ad hoc Tables

To create an **Ad hoc Table**, first create a **Table**, then use the **Ad hoc Items** page and add a new **Ad hoc Table Item** that references this **Table**.

NOTE: If you copy an **Ad hoc Table**, the copied table is not an Ad hoc table.

Adding a table

To add a **Table**, follow these steps:

1. Select **Media**, then **Tables** from the menu bar, then select the **Add Table** tab.
2. Enter a logical name for the **Table**.
3. Enter the number of rows and columns for the **Table**. The maximum size for a **Table** supported by the iCOMPEL is 19 rows by 39 columns. You cannot change the size of a **Table** after you create it.
4. Click **Add**

Editing Table data and styles

To edit data in a **Table**, follow these steps:

1. Select **Media**, then **Tables** from the menu bar, then click the **Edit** button.
2. To edit data, select the Values 40 tab. Make any changes and click **Save Changes**.
3. To edit styles, select the Styles 41 tab. Make any changes and click **Save Changes**.
4. To edit **Ad hoc** , select the **Ad hoc** tab. Make any changes and click **Apply**.

   You can choose how input is handled. The choices are:

   - **Default Value** - The Ad hoc user cannot change the cell value.
   - **Override with any value** - The Ad hoc user can enter any value in the cell.
   - **Override with Integer between 'lower limit' and 'upper limit'** - The cell value is restricted to integers between the lower limit and upper limit (both inclusive). Only shown if the User Interface Policy is set to Detailed.
   - **Override with text of maximum length 'maximum length'** - The cell value is restricted to the maximum length. Only shown if the User Interface Policy is set to Detailed.
   - **Override with text matching** - Only shown if the User Interface Policy is set to Detailed.
     - **Regular Expression** - The cell value must match the regular expression that is provided.
     - **Feedback Message** - The message that an Ad hoc user will see if the cell value does not match the regular expression provided.

   There are many web sites and books that provide information about using Regular Expressions.

   For example: http://www.regular-expressions.info/javascript.html

Table Values

Use this page to display or update the values entered in the **Table**. If this is an **Ad hoc Table**, then these values are defaults that are used until overridden by an Ad hoc User.

NOTE: the Save All Changes button must be pressed to store changes.

Cell Value

The text to display in this cell. This value may be blank.

Table Styles

This page allows the user to view and modify the Table formatting. This includes the border width and color, column width, and the font and color for each cell.

Border Width

Controls the width, in pixels, of the border surrounding each cell.

Setting this value to zero will disable the border. The maximum value is 100 pixels.

Border Color

Specifies the color of the border.

Column Width

Specifies whether the column width should automatically adjust to best fit its content or should be a maximum width. The width is expressed as a percentage.

Cell Font

Select the font family, size, and style to apply.

Cell Text / Background Color

Select the text and background color to apply.

Cell Text Alignment

Select the vertical and horizontal alignment for text.

Cell Whitespace Handling

Determines how spaces, tabs and newlines (collectively termed whitespace) are displayed. The default is Display multiple spaces as single space and multiple newlines as single newline', which will effectively ignore any whitespace in the cell value. To display the text with whitespace as entered, select the Display spaces and newlines as entered option.

Cell Apply To

When editing the Cell settings, these settings can be applied to:

- The current cell only
- All the cells in the row, or in the column
- All cells from the current cell to the bottom-right cell

Adding Tables to a Playlist

To add a **Table** to a **Playlist**, follow the steps for adding Special items to a Playlist 31.

3.1.5 RS-232 outputs

You can add an RS-232 output item to a **Playlist**. When the item is reached in a **Playlist**, the iCOMPEL sends a character string to an external device, via the iCOMPEL's RS-232 port.

An example of a external device action that could be triggered by an RS-232 output signal would be switching on the lighting in a room where the Screen is situated at the start of each working day.

For more information see the RS-232 Outputs 137 section.

Creating an RS-232 output item

To create an RS-232 output item, follow these steps:

1. From the menu bar select **Setup**, then **Player Setup**, then **RS-232 Outputs**.
2. Select the **Add Item** tab.
3. Create an RS-232 item:
    - Enter a name for the item
    - Under **Perform Enabled Actions when**, select the **Executed in a Playlist** option
    - select the check box for **Enable Send RS-232 String Action**
    - Enter the character string
    - Click **Add**

Adding an RS-232 output item to a Playlist

To add an RS-232 output item to a Playlist, follow these steps:

1. From the menu bar, select the **Layout** and **Zone** where you want to add the command to the **Playlist**.
2. Select the **Specials** tab.
3. Select the **Send RS-232 Item**
4. Click **Add**.
5. In the **Playlist**, use the arrows to adjust the position of the RS-232 item in the **Playlist**, as necessary.
6. Click **Edit** to adjust the interaction properties 70 if required.

3.2 Media run from disk

Some types of media are run from files on the iCOMPEL's disk. General information on using files and folders for media files is in the following sections:

Using Files and Folders 43

Uploading content files 44

Editing content files 45

Supported file types include:

Video 45

Text files 46

Images and photos 46

Audio 48

Presentations 49

HTML pages and Adobe Flash 50

Folder Play 50

3.2.1 File Manager

You can use **Files and Folders** on your iCOMPEL to manage the storage of certain types of **Media items** 35. You can display individual Media item files by adding them to the **Playlist** 29 for a **Zone** 23.

You can also play all the files in a **Folder** by **adding the Folder to a Playlist** 32.

When you use **Ad hoc items** you need to designate an **Ad hoc media folder** 87 for **Ad hoc users** to access.

The following topics are related:

Uploading Content 44

Editing Content Files 45

Displaying Content 32

Your browser may also support dragging and dropping 152 files straight into files and folders.

3.2.1.1 Using Files and Folders

You can use the **Files and Folders** page to browse the file system on the iCOMPEL.

The **File & Folders** tab lists all files in the currently selected folder and provides access to folder (directory) and file manipulation operations. To change the current folder, click on a folder name.

NOTE: You cannot carry out any folder and file operations on iCOMPEL system folders.

Folder operations

The following operations are supported for folders:

Delete the folder.

Move or rename the folder.

File operations

The following operations are supported for files:

Delete the file.

Move or rename the file.

Copy the file.

3.2.1.2 Uploading content files

There are different methods available for adding content files to the iCOMPEL:

- using the **File Manager** page
- using the **Files and Folders** pages of a **Playlist**
- using FTP 44 (file transfer protocol)

Uploading files using the File Manager

The **Upload Files** tab allows you to:

- Upload new media files to the current folder.
- Create new sub-folders of the current folder.

Uploading files

You should always add your content files to the **Media** folder, or to sub-folders of the **Media** folder.

To upload files, follow these steps:

1. From the menu bar, select **Media**, then **Files and Folders**.
2. If necessary, create a sub-folder 44 for the content files you wish to add.
3. Click the **Upload Files** tab.
4. Click **Browse** and navigate to the file you want to upload.
5. Click **Upload**.
6. Repeat these steps for each file.

Creating a folder

To create a folder, follow these steps:

1. Navigate to the folder that you want to use as the parent of the new folder.
2. Click the **Upload Files** tab.
3. Type a name for the new folder in the **Folder name** field and click **Create Folder**.
4. The iCOMPEL creates the new folder that is automatically selected as the current folder.

Uploading files using FTP

Note: On some networks and systems, FTP may be disabled for security reasons. If you have difficulty using FTP, please speak to the person responsible for running your network, as you may need to have specific read/write permissions to use FTP. In addition to network permissions for FTP, iCOMPEL users other than the Administrator must have FTP access enabled 85 on the iCOMPEL itself.

You can use FTP with two copies of Windows Explorer, as described below, or by using a suitable FTP client.

1. Open two copies of Windows Explorer, or an equivalent file manager program on your PC.
2. In the first copy of Windows Explorer, navigate to the folder with the content you want to upload to the iCOMPEL.
3. In the second copy of Windows Explorer, type `ftp://` followed by the IP address of your iCOMPEL, for example `ftp://192.168.0.254` More on finding the IP address of your iCOMPEL... 115
4. When prompted, enter your usual iCOMPEL username and password. You can now see the list of folders on the iCOMPEL. The root folder you see using FTP depends on the home folder defined for you on the iCOMPEL.
5. **Make sure that you add your files and folders to the Media folder only**. If you delete any files from other folders, you may render the iCOMPEL unusable.

6. Create a suitable folder structure by adding new folders under the media folder. It is often useful to create a separate folder for each Layout, and a sub-folder for each Zone, for example `media/Layout_reception/Zone_A` and `media/Layout_reception/Zone_B` and so on.
7. Drag-and-drop or copy-and-paste your folders and files between the two copies of Windows Explorer from your PC to the Media sub-folders on the iCOMPEL.
8. You may also rename and delete files on the iCOMPEL. To download files from the iCOMPEL, just drag-and-drop or copy-and-paste from the Media sub-folders to your PC.

The FTP page does not refresh itself automatically. Use the F5 key or the Refresh button on your browser to refresh the page.

You cannot move files from one folder to another in FTP. You need to download a file to your PC and then upload it to another FTP folder. Alternatively, use the File Manager page on the iCOMPEL to move files.

3.2.1.3 Editing content files

You cannot edit any content files while they are on the hard drive of the iCOMPEL. All content files must be downloaded to a local computer, edited with appropriate software, saved, and then uploaded to the iCOMPEL.

When you upload edited content you may be prompted to overwrite the existing file, and if so, click OK.

3.2.2 Video

You can play various types of video file on the iCOMPEL, using a **Zone** that is enabled for Movie type content. For some models of iCOMPEL best performance, we recommend having only one Movie enabled Zone in each Layout.

The following table shows the video formats supported on the iCOMPEL.

Player Type	Movie
Supported formats	**Notes**
MPEG-1	Good performance but poor resolution.
MPEG-2	RECOMMENDED. Best combination of performance and resolution but large file size.
MPEG-4	Small file size but high processing load. May slow down some models.
AVI	Best image quality but extremely high processing load. May overload some models.
QuickTime (.MOV)	Apple Mac format. Can have very high processing load. May overload some models.
VOB	Same as MPEG-2.

Preferred format

The same video clip in the different formats has different file sizes and places different processing loads on the iCOMPEL when played. The iCOMPEL has a smaller processor than most Microsoft Windows PCs, so it is more important to use a format that is easier to decode than one that has smaller file sizes. MPEG-2 is the preferred format as it requires less decoding by the processor. Wherever possible, you should convert other formats to MPEG-2 before uploading them to the iCOMPEL.

Adding Video to a Playlist

Before you can add a Video file to a **Playlist**, you must upload it to the iCOMPEL. See Uploading content files 44 for details of how to do this.

To add a **Video** file to a **Playlist**, follow the steps for adding Media item files to a Playlist 31. After you add the video file, it appears on the Playlist. Use the **Edit** button to view and adjust the **Video** file properties as necessary.

Additional Movie properties 59

3.2.3 Text files

The iCOMPEL text player supports the use of text files (*.txt) as well as text added directly through the iCOMPEL user interface. It does not support the use of any word-processor formatted files such as Microsoft Word (*.doc), or Adobe Acrobat (*.pdf).

Adding text using a text file

Before you can add a text file to a **Playlist**, you must upload it to the iCOMPEL. See Uploading content files 44 for details of how to do this.

To add a text file to a **Playlist**, follow the steps for adding Media item files to a Playlist 31. After you add the text file, it appears on the Playlist. Use the **Edit** button to view and adjust the text file properties 58 as necessary.

You can also add text directly to the iCOMPEL . For more details see Text... 35

3.2.4 Images and photos

Player Type	Image
Supported formats	**Notes**
PNG	RECOMMENDED: Good quality, supports transparency
JPG	Edges can blur, does not look good when shown on a large screen
GIF	Can look very grainy but does support transparency
BMP	Large file size but no loss of quality.

Notes

Large images may take several seconds to appear and may slow down the performance of the iCOMPEL. You should always resize an image to match the size of the **Zone** before uploading it to the iCOMPEL.

Animated GIFs

Animated GIFs are not supported as image files on the iCOMPEL. If you want to use an animated GIF, you must first embed it into an HTML page.

Adding Images to a Playlist

Before you can add an image file to a **Playlist**, you must upload it to the iCOMPEL. See Uploading content files 44 for details of how to do this.

To add a Image file to a **Playlist**, follow the steps for adding Media item files to a Playlist 31. After you add the Image file, it appears on the **Playlist**. Use the **Edit** button to view and adjust the Image file properties as necessary.

Image file properties

When you add an image to a **Playlist**, you can set the following properties:

Mode

You can set the image display mode to one of these options:

- **Fit to Zone** stretches the image size to exactly fit the specified width and height of the Zone. This may distort the image because it changes the image aspect ratio.
- **Letterbox** shows the entire image but preserves the original *aspect ratio*. Any space in the Zone not covered by the image (the letterbox area) shows the Letterbox Color you set.
- **Crop** preserves the image aspect ratio, but may cut off the edges of the image to display within the specified width and height of the Zone.

The *aspect ratio* of an image is the relationship between its height and its width.

Letterbox Color

If you select **Letterbox** mode as the image display mode, the letterbox area is the area between the Zone edge and image edge. The Letterbox area is shown in the Letterbox color you set.

See also:

Duration 60
Position and Size 60
Opacity 60
Time validity 60

3.2.5 Audio

Player type	Audio Soundtrack
Supported formats	**Notes**
MP3	RECOMMENDED. Good performance.
WAV	Similar quality to MP3.
WMA	Windows format but works on iCOMPEL.

Audio files are added to the **Playlist** for the **Layout's** soundtrack, and not to the **Playlist** for a **Zone**.

Adding Audio to a Layout

Before you can add an audio file to a **Layout** you must upload it to the iCOMPEL. See Uploading content files 44 for details of how to do this.

Audio files can only be added to Layouts which have Soundtracks. See the adding a Soundtrack to a layout 23 topic for more details.

Edit the Playlist for a Soundtrack

To edit the **Playlist** for a **Soundtrack**, follow these steps

1. From the menu bar, select **Layouts**, then **Manage Layouts**.
2. Click the **Edit** button for the Layout you wish to edit.
3. In the **Select Action** pop-up dialog, click **Edit Playlist for Soundtrack**.
4. Click on the **Files and Folders** tab, and navigate to the audio file you wish to add. Click the **Add** button next to the file you wish to add to the **Playlist**.

An alternative way of getting to edit the **Playlist** for the **Soundtrack Zone** is to click the **Soundtrack** icon next to the **Layout** thumbnail on the **Layouts** page**.**

Audio properties

When you add an Audio file to a **Playlist**, you can set the following properties.

Volume

You can set the volume for an Audio item. The value on the Properties page is a percentage of the Master Volume level, which is configured on the Audio setup page 48. The default setting is 75% of the Master Volume level.

See also

Duration 60

Time validity 60

3.2.6 Presentations

Player type	Presentation
Supported formats	**Notes**
PPT	Microsoft Office PowerPoint presentation, from Office 2003 or 2007 only
ODP	Open Office Impress presentation

Recommendation

You can run a presentation directly on your iCOMPEL but this may consume large amounts of processing resources, resulting in low image quality and overall poor performance. You may wish to convert large or complex presentations to an image format, using third-party software, and display the images instead. See **Converting presentations to image formats** 49

Add a presentation file to a Playlist

Before you can add a presentation file to a **Playlist**, you must upload it to the iCOMPEL. See Uploading content files 44 for details of how to do this.

To add a **Presentation** file to a **Playlist**, follow the steps foradding Media item files to a Playlist 31. After you add the **Presentation** file, it appears on the **Playlist**. Use the **Edit** button to view and adjust the **Presentation** file properties as necessary.

3.2.6.1 Converting presentations to other formats

You may wish to convert large or complex presentations to images to improve image quality and avoid poor performance of your iCOMPEL. Use one of the following methods to convert your presentation:

- *Image slide show* (if slide transitions and animation effects are not important)
- *Flash animation* (if slide transitions and animation effects are important - creates small file)
- *Video* (if slide transitions and animation effects are important - creates large file)

Convert to an Image Slideshow

To convert a presentation to an image slideshow follow these steps:

1. In Microsoft Office PowerPoint, select **Save As**.. from the **File** menu (the exact wording of the commands may vary between different versions of Microsoft Office).
2. Choose an image file type supported by the iCOMPEL (PNG - recommended, TIF, JPG, or BMP)
3. When you are prompted to save every slide, confirm and save the presentation as individual slides in their own folder.

Convert to a Flash Animation

There are various third-party commercial products that can convert a Microsoft Office PowerPoint presentation to a Flash animation with varying degrees of complexity. The free OpenOffice suite of software will open a Microsoft Office PowerPoint presentation and allow you to export it as a Flash file but without slide transitions or animations.

Convert to a Video

There are various third-party commercial products that can convert a Microsoft Office PowerPoint presentation to a video. There is a built-in Convert to Video feature in Microsoft Office PowerPoint for Apple Mac computers. Some products are specifically designed for converting PowerPoint presentations to video files, while other are more general screen capture applications, which can be useful if you want to include mouse movement and/or provide a voice-over.

3.2.7 HTML pages and Adobe Flash

Player Type	HTML
Supported Formats	**Comments**
.SWF Version 10	The iCOMPEL uses Flash Player version 10.

Requirements

Complex Flash files that run smoothly on a desktop PC may not run smoothly on some models of iCOMPEL because of the processor speed.

Flash files give no indication to the iCOMPEL that they are finished. You need to set a maximum duration when you add the item to a Playlist to force the iCOMPEL to move on to the next item.

Adding a Flash file to a Playlist

Before you can add a Flash file to a **Playlist**, you must upload it to the iCOMPEL. See Uploading content files 44 for details of how to do this.

To add a **Flash** file to a **Playlist**, follow the steps for adding Media item files to a Playlist 31. After you add the **Flash** file, it appears on the Playlist. Use the Edit button to view and adjust the **Flash** file properties as necessary.

3.2.8 Folder Play

Folder Play is the term for playing all the contents of a folder automatically, by adding the folder rather than individual files to the Playlist. The files in the folder are played in sequence according to the order of their file names. You can add or delete items from a folder in a Playlist even while it is being played.

Optionally, you may play the files in the folder in a random order (shuffle play) rather than in sequence, and you can also ensure that all files played randomly are seen for the same amount of time. You may also limit the number of items played from the folder.

Folder play properties 51

Adding a Folder

To add a **Folder** to a **Playlist**, see: Adding folders to a Playlist 32

File name order in Folder Play

Your iCOMPEL plays the files in a folder in the order of their file names. The iCOMPEL recognizes the natural order of numbers (1, 2, 3, ...10, 11...21, and so on) and the alphabetical order of letters. The iCOMPEL sorts numbers before letters and is not case-sensitive.

Viewing items from a Folder in your web browser

When you create a Folder of items, you may wish to view individual items to test them. To view a single media item in your web browser, follow theses steps:

1. Select **Media** from the menu bar and then select **Files and Folders**.
2. Navigate through the folders and files to the content item you want to see.
3. Click the item to display it in your web browser.

Some items such as videos may take a considerable time to download and display. Some media items may not be supported on your PC.

3.2.8.1 Folder Play properties

You can define the following properties for a **Folder Play**:

Management

When Ad hoc Management is enabled, the iCOMPEL plays the media files in the specified Ad hoc Folder, and if this directory contains no suitable media files the iCOMPEL plays the contents of the Media Folder instead.

An Ad hoc User may modify files in the Ad hoc Folder using the Media Folder page 87 in the Ad hoc Customization section.

If the iCOMPEL is a Subscriber 98, then only media files in the Media Folder are replaced during Subscription. Media in the Ad hoc Folder is left unchanged. This mechanism allows local media content to be used by the Subscriber.

Item Selection

You can determine how media items are selected from files in a folder:

- **Play all Items** - the iCOMPEL plays every supported media item in the folder for the specified duration. The media items are selected sequentially (alphabetically based on filename or randomly, depending on the **Select Items** setting).
- **Play only the first *n* items -** the iCOMPEL plays the first *n* media items. Media items are sorted alphabetically based on filename then picked sequentially or randomly, depending on the **Select Items** setting. This option means some items are not played.
- **Play all Items in groups of *n* items -** the iCOMPEL plays all items in a random order, but ensures that each media item is played the same number of times, by stepping through each group of items in turn.

Example

You can combine **Folder Play** properties to create sequences that meet specific requirements. For example, you may wish to set up a Playlist that showed a sequence of music videos in a fixed order, and between each video show two randomly selected advertisements followed by a corporate logo for a fixed time.

To create this sequence of folders, follow these steps.

1. Create three folders on the iCOMPEL as follows:
   - Music
   - Advertisements
   - Logo
2. Upload videos into the Music folder. Rename the video files as necessary to create the play order you want (for example, "A Summer in the city.mpg, B Be my girl.mpg", and so on).
3. Upload the advertisements into the Advertisements folder.
4. Upload the logo into the Logo file.

5. Create a Playlist as follows:

- Add the Music folder to the Playlist, limit 1.
- Add the Advert folder to the Playlist with memory, limit 2.
- Add the Corporate logo image as an individual file, duration 10 seconds.

Item Synchronization

The Item Synchronization 67 option allows one Zone (the Master) to control the media items shown in one or more other Zones (Slave Zones). For further details see Automatic captioning 67.

Specifying Custom Item Duration

You can specify a custom duration for any Items played as part of a Folder Play. This can be done by adding the term `-duration-x` just before the file extension, where x is replaced by the duration in seconds. For example: `logo-intro-duration-17.swf` means that the item plays for 17 seconds.

Custom duration only applies to items in folders, and has no effect when the Item is directly added to the Playlist.

3.3 Media from external sources

Some types of media are run directly from external sources. these include:

TV 52

Radio 53

Live Video 54

Multicast Video (IPTV) 55

External Web Pages 56

3.3.1 TV

Player type	Movie
Supported Formats	**Notes**
Digital TV	Broadcast digital TV, where available. ATSC digital cable and over-the-air, where available.
Analog TV	Broadcast TV, where available.
Requirements	iCOMPEL with TV tuner card

Before you can use TV with your iCOMPEL you must ensure that you are set up correctly. This includes:

- TV antenna connected to the TV socket on the iCOMPEL.
- TV tuner card in the iCOMPEL tuned to digital transmitter (see **Setting up Digital TV** 124).
- Analog TV station name and number pairs (see **Setting up analog TV** 124)

Adding TV to a Playlist

To add TV broadcast to a Playlist follow the steps for adding Special items to a Playlist 31. After you add the TV broadcast, it appears on the Playlist. Use the **Edit** button to view and adjust the TV item properties as necessary, for example to display TV subtitles.

TV properties

Subtitles

Select the check box to display subtitles if they are available.

Volume

Enter the volume as a percentage of the maximum volume if you have enabled the soundtrack for this Layout.

See also:

Displaying part of a Movie or Web page 75
Movie properties 59
Duration properties 60
Opacity 60
Position and Size properties 60
Time validity 60

3.3.2 Radio

Zone type	Soundtrack
Supported format	**Notes**
Digital TV Radio	Digital TV radio stations, where available.
Requirements	iCOMPEL with TV tuner card

Before you can use radio with your iCOMPEL, you must ensure that you are set up correctly. This includes:

- TV antenna connected to the TV socket on the iCOMPEL.
- TV tuner card in the iCOMPEL tuned to a digital transmission (see **Setting up Digital TV** 124).

Adding Radio to a Layout's soundtrack

To add **Radio broadcast** to a Layout's soundtrack, follow the steps for adding Special items to a Playlist 31. After you add the **Radio broadcast**, it appears on the Playlist. Click **Edit** to edit the Audio properties as required.

Radio properties

Volume

Enter the volume as a percentage of the maximum volume

See also:

Duration properties 60

Time validity 60

3.3.3 Live Video

Player type	Movie
Supported Formats	**Notes**
S-Video Composite Video	Including: cameras, DVD players, set-top boxes, etc.
Requirements	iCOMPEL with TV tuner card

Before you can use Live video with your iCOMPEL, you must ensure that you are set up correctly. This includes:

- Either an S-Video or Composite video cable connected to the relevant socket on the iCOMPEL TV Tuner card.
- A working output device connected to the cable.

Adding live Video to a Playlist

Before you can add live Video in to a **Playlist** you need to configure your TV Tuner 124 to recognize the video source as a TV input.

To add **live Video** to a Playlist, follow the steps for adding Special items to a Playlist 31. After you add the **live Video**, it appears on the Playlist. Use the arrows to adjust the position of the **live Video** in the Playlist, as necessary. Click Edit to edit the **live Video** properties as required.

Live Video properties

Volume

Enter the volume as a percentage of the maximum volume, if you have enabled the soundtrack for this Layout

See also:

Displaying part of a Movie or Web page 75

Movie properties 59

Duration properties 60

Opacity 60

Position and Size properties 60

Time validity 60

3.3.4 Multicast Video (IPTV)

Technical notes	
Player type	Movie
Supported formats	**Notes**
MPEG-2 transport stream in UDP	Network Multicast Stream
Requirements	Additional Multicast Stream-in feature key required (Part Number: ICOMP-IN).

Before you can use Multicast Video with your iCOMPEL, you must ensure that you are set up correctly. This includes:

- An IGMP aware network infrastructure that has allows multicast streaming.
- A device to stream video onto the network.
- A network cable connecting the iCOMPEL to the network.

Adding Multicast Video to a Playlist

Before you can add live Video in to a **Playlist**, you need to configure your TV Tuner 124 to recognize the video source as a TV input

To add **Multicast Video** to a Playlist, follow the steps for adding Special items to a Playlist 31. After you add the **Multicast Video**, it appears on the Playlist. Click Edit to edit the **Multicast Video** properties as required.

Multicast Video properties

Subtitles

Select the check box to display subtitles if they are available.

Volume

Enter the volume as a percentage of the maximum volume, if you have enabled the soundtrack for this Layout

See also:

Displaying part of a Movie or Web page 75
Movie properties 59
Duration properties 60
Opacity 60
Position and Size properties 60
Time validity 60

3.3.5 External Web Pages

Player type	HTML
Supported formats	**Notes**
HTML	The iCOMPEL uses WebKit for Linux. WebKit is used by Apple Safari and Google Chrome browsers. JavaScript in a Web page is supported Flash files in a Web page are supported ActiveX is not supported

Note: HTML pages always have a white, non-transparent background.

Requirements

Much web content is designed to be interactive and read at close range making it unsuitable for digital signage applications. It is possible to create web content specifically for digital signage using large fonts and no hyperlinks.

To display a web page, your iCOMPEL must have access to the Internet or the network where the web page is hosted. The iCOMPEL displays a web page in an HTML enabled Zone in exactly the same way that a web browser displays a web page. (The iCOMPEL uses a version of the Mozilla Firefox browser to do this.)

The only difference between the iCOMPEL and a regular web browser is that web content that requires a specific downloaded plug-in, or requires a specific operating system, is not displayed. For example, the iCOMPEL does not display ActiveX content on a web page.

You can use a copy of Mozilla Firefox to preview the appearance of a web page on the iCOMPEL.

There is no way to interact with the web page that is being displayed. If the web page requires a username and password to log in, you must include that in the page URL in the format `protocol://username:password@site`.

Adding External Web pages to a Playlist

To link to an external web page to a **Playlist**, follow these steps:

1. Using a web browser, select the page you want to link to and copy the whole web address (URL).
   It is sometimes possible to use the URL for a specific frame or image on a web page to display just that item.
2. In the iCOMPEL, select the **Layout** and **Zone** you want to add the page to.
3. Select the **Specials** tab.
4. Paste the URL from the website into the **External Web page** text box.
5. Click **Add**.
6. In the **Playlist**, use the arrows to adjust the position of the item in the **Playlist**, as necessary.
7. Use the **Edit** button to view and adjust the item properties as necessary.

It is possible to display part of a web page 75 only.

Saving Web pages to disk

As an alternative to connecting to the Internet and displaying a web page directly from an external source, you can save it and store it on the iCOMPEL.

Once you store a web page in this way, you lose the connection to the original page. Any updates to the original page are not reflected in your stored copy of the page.

If you wish to store a page in this way, you must select the **Web page, complete** option from the **Save as** command in your web browser, to make sure you store not only the web page but also all its associated files. Your web browser creates a folder that contains any images, script files, or data files used by the page. This folder has a name in the format `[pagename]_files`, where `[pagename]` is the name of the HTML page.

You must upload both the HTML page and the associated `_files` folder to the iCOMPEL in order to display a stored page.

To add a stored HTML page to a **Playlist**, follow the steps for adding Media item files 31 to a **Playlist**. After you add the HTML page file, it appears on the **Playlist**. Use the **Edit** button to view and adjust the HTML page file properties as necessary.

Auto-refresh

Some web pages are designed to auto-refresh. In these cases, the web page tells the iCOMPEL browser to reload the page at regular intervals. Pages that auto-refresh can be added to a Playlist with an indefinite duration and you can be sure that they always show the latest information.

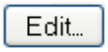
Pages that do not auto-refresh may show out-of-date information and need to be reloaded periodically. To do this, add the pages to a Playlist with a fixed duration, as this forces the iCOMPEL to reload the page periodically.

You can determine whether a page is designed to auto-refresh by examining the HTML code for the page and searching for the following HTML tag:

```
<meta http-equiv=refresh >
```

3.4 Media item properties

There are different **Playlist** properties for each type of media item. To edit the properties for a **Playlist** item, click the



Edit button alongside the item.

Properties that only apply to one type of media content are included in the main topic for that type of content. Properties that are common to several types of media content are described here.

For details of **Playlist** properties for each item type, see the following sections:

Text properties 58
Newsfeed properties 36
Movie properties 59
HTML properties 59
Image properties 46
Audio properties 48
Clock properties 38
Folder Play properties 51
Duration properties 60
Position and Size properties 60
Partial display of movie 59
Opacity 60
Time validity 60
Conditional Play 61
Ad hoc properties 61

3.4.1 Text properties

These properties apply to directly entered text, Newsfeeds, Text files and Clocks:

Text style

You can specify the amount of time the text item should be shown for, or the speed and direction for scrolling text.

The speed of the text is displayed in pixels per second.

NOTE: For best results, set the speed in multiples of 60, for example 60, or 120.

Font

Select the typeface, size and style of the Font to use. For more information see Fonts 65.

Text Color (foreground)

You can use the **Pick Color** button to set the text color.

See Colors 64 for more information.

Background Color

You can use the **Pick Color** button to set the background color.

See Colors 64 for more information.

Horizontal and Vertical Alignment

You can set the horizontal and vertical alignment properties for text. These Properties are dependent upon the text movement direction.

Margins

You can set margins (blank space) around the edges of an a block of text. The margin values are expressed in pixels, and must be zero or greater.

White Space

The white space settings determine how spaces, tabs and line breaks (new lines) are displayed. The White space option is available for text files but not for directly entered text. Choose from the following options:

- **Display multiple spaces as single space and multiple newlines as single newline** - this option ignores any white space in the text.
- **Display spaces and newlines as entered** this option displays the text with any white space you entered.

Character Set

You can select a character set if the text file does not explicitly specify one. The character set option is available for text files but not for directly entered text.

The iCOMPEL can display text files in the following character sets:

- DOS Latin (1 and US)
- Macintosh OS (Western and Eastern Europe)
- Microsoft Windows (Western and Eastern Europe)
- Unicode
- UTF-8

3.4.2 Movie properties

The following properties apply to Movie items:

Subtitles

If you select the **Display subtitles** checkbox, the iCOMPEL shows subtitles on top of the video, if they are available.

Volume

Enter the volume as a percentage of the maximum volume.

Movie Size / TV Size

You can use a Zone as a "window" that shows only part of a movie by Displaying part of a Movie or Web page 75. The Movie width and Movie height Properties are the size of the whole movie, while Top Edge offset and Left Edge set the position of your "window" on top of the movie.

NOTE: This option is only visible if you have set the **User Interface Policy** to **Detailed** or **Expert** on the **UI Options** 115 page.

See also:

Duration properties 60
Opacity 60
Position and Size properties 60
Time validity 60

3.4.3 HTML properties

The following properties apply to HTML media items:

Volume

Enter the volume as a percentage of the maximum volume, if you have enabled the soundtrack for this Layout.

Web Page Size

You can use a Zone as a "window" that shows only part of a movie by Displaying part of a Movie or Web page 75. The width and height Properties are the size of the whole Web page, while Top Edge offset and Left Edge set the position of your "window" on top of the Web page.

NOTE: This option is only visible if you have set the **User Interface Policy** to **Detailed** or **Expert** on the **UI Options** 115 page.

Page Services

If enabled, this option will allow the HTML media to access the following services on the player:

- Send instructions to the player interface, including the ability to Change Layout, Advanced to a Rendezvous Point and obtain a listing of media files to play.
- Display any files stored on the media folder.

This setting must be enabled for certain player widgets. Please see the appropriate documentation for more information.

See also:

Duration properties 60
Opacity 60
Position and Size properties 60
Time validity 60

3.4.4 Duration

You can set the duration for the display of an item in a Playlist. The options are:

- display the item indefinitely
- display the item for a fixed period (in hours, minutes and seconds)

3.4.5 Position and Size

You can override the position and size settings for a Zone by changing the position and size settings for a single media item.

NOTE: This setting is only visible if you have set the **User Interface Policy** to **Detailed** or **Expert** on the **UI Options** 115 page or if the property has already been enabled for a given item.

Override Position and Size settings for Playlist item

To override the position and size settings for an item, follow these steps:

1. Click Edit... to set the properties for a Playlist item.
2. Under **Position and Size**, select **Use custom Position and size**, and enter the:
   .1. **Left Edge** and **Top edge** offsets for the top left corner for this item
   .2. **Width** and **Height** value for this item

3.4.6 Opacity

You can control whether an item is transparent, partly transparent or completely opaque by adjusting the Opacity level. If the opacity is set to 100, the item is completely opaque, and you cannot see any of the items underneath it. If the opacity is set to 1, the item is almost completely transparent (invisible). Take care with this property, as very low values can make an item very hard to see.

If an image file contains an alpha-channel (which contains transparency information), the alpha-channel values override the Opacity setting.

More details on Opacity... 64

3.4.7 Time validity

Time Validity lets you control when individual Playlist items can be shown in a Playlist. For example, you may have adverts that you only want to play on certain days of the week, or you may wish to show a traffic report after 5pm. Outside the times you specify, the item is skipped when its turn comes in the **Playlist**.

The iCOMPEL tests the Time validity when a media item starts to play, but does not continue to check it while an item is playing, so an Item may be playing outside its valid time. The iCOMPEL ignores **Time Validity** when you audition a media item or a single Zone.

NOTE: This setting is only visible if you have set the **User Interface Policy** to **Detailed** or **Expert** on the **UI Options** 115 page or if the property has already been enabled for a given item.

Adding Time Validity to a Playlist item

Click to set the properties for a Playlist item.

Select one of the following options to set time validity for the item:

Date Range	The date range includes the two dates selected, to select a single day set both dates to the same day.
Days	Set the day(s) of the week on which the item is displayed.
Time Period	Set the times of day during which the item is displayed.

Time Validity is not used when you are previewing an individual Playlist item or Zone. It is used when you audition the whole Layout or when the Layout is playing as part of a Schedule.

3.4.8 Conditional Play

The **Conditional Play** property lets you control if an item can be played based on Player Local Information (PLI). Please refer to the Player Local Information 133 section for more information.

NOTE: This property is only visible if you have set the **User Interface Policy** to **Detailed** or **Expert** on the **UI Options** 115 page or if the property has already been enabled for a given Playlist item or Schedule.

NOTE: Any change in PLI will be checked to see if currently playing items should still be played.

Adding Conditional Play to a Playlist item

1. Click to set the properties for a Playlist item.
2. For 'Conditional Play' property select the required option:
   A. **Always Play** (default). This Item is always played unconditionally.
   B. **Play if Player Local Information contains** (...). This setting evaluates the following condition, and will play the item only if the condition is satisfied.

If **Play if Player Local Information contains** (...) is selected the please enter:

1. Player Local Information item name
2. Kind of operation.
3. List of values for evaluating the condition.

These changes will be applied when the Schedule is next Activated.

3.4.9 Ad hoc properties

The following properties may apply to directly entered text, Newsfeeds, Radio, TV and Tables that are set to be Customizable or Ad hoc.

Item Type

Click the *Save Changes and change Item Type* button to save any existing changes to the Item and to navigate to a page where it is possible to change the Item's type.

The options are:

- Fixed to the value specified by the Layout Designer
- Customizable
- Ad hoc (with the option to create a new Ad hoc from the existing Item if so desired).

Ad hoc Entry Label

The Label used by the Layout's **Ad hoc Page** to refer to this item.

Ad hoc Item Name

Uniquely identifies an Ad hoc Item on the iCOMPEL.

Customization Scope

For directly entered text the option exists to be **Ad hoc From Center** which means that in a **Channel**, changes made on the Publisher iCOMPEL to this Item's override value will be applied to each Subscriber iCOMPEL as well.

Customization Status

Indicates if this Item is currently displaying its default value or if it has been overridden by an Ad hoc User.

Used by Layouts

Lists the Layouts that use this Ad hoc Item.

NOTE: Ad hoc Item Name and **Used by Layouts** are only available to Ad hoc Items that are not Customizable Items.

3.5 Playlist Commands

The following commands can be used to alter what is playing:

Rendezvous Point and Advance To commands 62

Change Layout command 63

3.5.1 Rendezvous Point and Advance commands

Each **Playlist** is a sequence of items that operates independently, Even if two Playlists have a sequence items of exactly equal lengths you cannot rely on the display between different **Zones** to be completely synchronized. Instead, the iCOMPEL offers a manual synchronization mechanism using **Rendezvous Points** and **Advance To (*Rendezvous Point*)** commands.

When an Advance To command is encountered in the playlist, the command is passed on to either all Zones or a single specified Zone in the current Layout. If the receiving Zone (or Zones) contain the Rendezvous Point name, then the playlist immediately starts playing from the item immediately following the Rendezvous Point entry. If a Playlist does not contain Rendezvous Point, the command is ignored.

Advance To commands and Rendezvous Points share the same identifying names. As you can place the same Rendezvous point in multiple Playlists for different Zones, one single Advance To command can trigger actions in several different Zones. You can also program other actions on the iCOMPEL, such as GPIO 72 or Touch screen 73 events, to trigger Advance to commands.

Rendezvous Point names are not case sensitive.

Adding Rendezvous Points

To add a **Rendezvous Point** to a **Playlist**, follow these steps:

1. Select the **Playlist** where you want to add the **Rendezvous Point**.
2. Click the **Specials** tab.
3. Type in a name for the **Rendezvous Point** in the text box. You can enter any text for the name, except for a name beginning `auto_`.
4. Click **Add**.
5. In the **Playlist**, make sure the **Rendezvous Point** appears at the correct position (immediately before the item you want to be launched by the **Advance To** command).
6. If necessary, repeat these steps to create additional **Rendezvous Points** in other **Playlists**.

Adding an Advance To Command

To add an **Advance to** command to a **Playlist**, follow these steps:

1. Select the **Playlist** where you want to add the.
2. Click the **Specials** tab
3. Select the **Rendezvous Point** by name from the list in the **Advance To Rendezvous Point** section.
4. Click **Add**
5. In the **Playlist**, make sure the **Advance to** command appears at the correct position (immediately before the item that you want to synchronize).

Advance To Properties

All Zones

Specifies which Zones the Advance To will be sent to.

3.5.2 Change Layout command

Unlike the **Advance to** command, the **Change Layout** command launches a different screen Layout, which may have a noticeably different arrangement of **Zones**. If you want to implement a simple change of the Layout, then using an Advance to command would bring a quick result. However, it is difficult to affect a complex change using the Advance to command. Change Layout displays a different Layout entirely, but it does take longer to refresh the Screen.

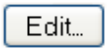
The **Change Layout** command is available on the **Specials** tab for **Playlists**.

3.6 Colors

You can set the colors to be used for fonts, backgrounds, and other items on the iCOMPEL using this page.

A **Color item** is defined by a unique name, a color value, and an opacity setting. Color values are expressed as either RGB (Red, Green, Blue) or Hex (Hexadecimal) values. When you change the color value or the opacity value for a **Color item**, all the visual elements that use the **Color item** are updated. You must click the **Activate Schedules and Layouts** button to apply your changes. You can define more than one **Color item** with the same color values.

To add a new **Color item**, click the **Add Color** tab.

To change the properties of a **Color Item** click the **Edit** 

button and modify the settings as required.

To delete a **Color item** click the **Delete** button. If the **Color item** is in use you cannot delete it. To find out where the **Color item** is being used, click the **Edit button** and check the **Used By** tab.

Color items for new Layouts and Tables

When you create a new **Layout** or a new **Table**, the iCOMPEL automatically creates new **Color items**. For **Layouts** these are **Color items** for the text foreground and background, and the letterbox background, and for **Tables** these are **Color items** for the text foreground and background.

The **Color items** are named in the format `<Layout name>: <Colour item>`. For example, if you create a new **Layout** named ***Holidays***, the following Color items are created:

- Text foreground **Holidays: Text**
- Text background **Holidays: Background**
- Letterbox **Holidays: Letterbox**

You can modify the properties for these **Color items** as needed.

Color properties

Name

You must specify a name for a **Color item**, and the name must be unique.

Color value

To specify a **Color Value** you must specify either:

- Separate Red, Green and Blue (RGB) values for the color. Each of the three color values can range from 0 to 255. More on Finding the RGB values for a color... 65
- A Hex (hexadecimal) value, representing the Red, Green and Blue values (in this order) expressed in hexadecimal (base 16).

Opacity

The Opacity value determines how transparent a color is, with 0 being completely transparent (invisible) and 100 being completely opaque (solid).

Adding colors

You need to know the Red, Green, Blue (RGB) values or the Hexadecimal (Hex) value for your color to add it to the iCOMPEL color palette. More on Finding the RGB values for a color... 65

To add a color, follow these steps:

1. From the menu bar, select **Media**, then **Colors**, and click the **Add Colors** tab.

2. Enter a distinctive logical name (for example, *Corporate Blue*)
3. Enter either the RGB values or the Hex value.
4. Click **Add**.

Finding the RGB Values for a Color

Here is an easy method for finding the RGB values for a color you want to use on your iCOMPEL.

1. On a Microsoft Windows PC, click Start, then Programs (or All Programs), then Accessories, and select Paint.
2. Open an image that includes the color you want to use.
3. Use the Pick Color tool (shaped like an eye-dropper) to select a pixel in the image that is the color you want the RGB values for.
4. Select Colors, then Edit Colors, then Define Custom Colors.
5. The RGB values for this color are given in the Red, Green and Blue boxes. Make a note of these values to use in the iCOMPEL.

3.7 Fonts

The iCOMPEL has a collection of standard fonts that are suitable for most purposes. To view the installed fonts, select **Media**, then **Fonts** from the menu bar, and then click the **Font Families** tab.

The **Font Families** tab shows details of all the fonts available on the iCOMPEL, including user-installed fonts. The **Font Files** tab lists details of all user installed fonts.

If you need to use specific fonts, you can add your own font files. The iCOMPEL supports TrueType Font (`*.TTF` or `*.TTC`) and OpenType (*.OTF) format font files on the iCOMPEL.

If you are distributing content in a **Channel** 98, you must install your additional fonts on every **Subscriber** iCOMPEL

Adding a Font file

To add a font file, follow these steps:

1. From the menu bar, select **Media**, then **Fonts**, and click the **Add Fonts** tab.
2. Browse to the font file you wish to add.
3. Click **Add**.
4. After you add a font file, you must restart the iCOMPEL. Follow the prompts to restart.

Previewing a font

To preview a font, click the **Audition** button . This interrupts the current Layout display and shows a test message on the screen. You can change the test message using the **Font Options** tab.

Part IV

Enhancing your displays

4. Enhancing your displays

This section describes how to enhance your digital signs. This information applies equally to creating signs for a stand-alone iCOMPEL, and to creating signs for a channel publisher.

Select a topic below for more information about:

Synchronizing Playlist displays between Zones 67
Automatic captioning 67
Using Advance to commands 62
Displaying Video-on-demand using a sub-playlist 68
Interactivity 70
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Using General Purpose Input-Output (GPIO) 72
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4.1 Synchronizing Playlist displays between Zones

It is possible to synchronize the display between two **Playlists** in different Zones. This can be used, for example, to display video or images in one **Zone** and related text captions in another **Zone**.

The simple way to do this is by using Automatic captioning 67. A more complex and more powerful method is by using Advance to commands 62.

4.1.1 Automatic captioning

To implement synchronization between two or more Zones you need to designate one **Playlist** as the **Master (Primary) Playlist**, and one or more other **Playlists** as **Slave (Secondary) Playlists**. You add named targets into each **Slave Playlist**, known as **Rendezvous Points,** and add an identically named command to the **Master Playlist**, known as an **Advance To** command. When the **Master Playlist** reaches the **Advance To** command, the iCOMPEL forces all the **Slave Playlists** to start playing the first item in the **Playlist** after the **Rendezvous point**.

Automatic captioning relies on two sets of files having corresponding file names, so that they are displayed together. For example the video file named `Marketing_Highlights_01.mpg` and the text file named `Marketing_Highlights_01.txt` are displayed at the same time.

To set up automatic captioning between a Zone with Video content (the Video Zone) and the corresponding Zone with text content (the Text Zone) you need to follow separate steps as follows:

Setting up the Video Zone for automatic captioning

To set up a Video Zone for automatic captioning, follow these steps:

1. Put all the videos into one folder on the iCOMPEL.
2. Click on the video Zone to open its Playlist for editing.
3. Select the Files and Folders tab.
4. Click on the Add button alongside the name of the Folder with the videos to add it as a folder-play item.
5. Select the Playlist tab.
6. Click the Edit button for the folder.
7. For the Item Synchronization option, select Master.

8. Click the Save Changes button.

Setting up the Text Zone for automatic captioning

Before you begin this procedure, create a text file with a caption for each video file. The text file must have the same name as the video file. For example, for a video file named `Marketing_Highlights_01.mpg` you must create a text file named `Marketing_Highlights_01.txt` with the caption you want to display.

To set up a Text Zone for automatic captioning, follow these steps:

1. Place all the text files into a folder on the iCOMPEL. This can be the same folder that contains the video files.
2. Click on the text Zone to open its Playlist for editing.
3. Select the Files and Folders tab.
4. Click on the Add button alongside the name of the Folder with the videos to add it as a folder-play item.
5. Select the Playlist tab.
6. Click the Edit button for the folder.
7. For the Item Synchronization option, select Slave - track changes to Master.
8. Ensure that the duration is set to Play indefinitely and that the text style is set to Show indefinitely.
9. Click the Save Changes button.

4.1.2 Displaying Video-on-demand using a sub-playlist

You can use the Ad hoc mechanism 79 to configure the iCOMPEL to show videos on-demand (in response to a button-click) by using a series of Advance to commands 62. The same mechanism can also be used to set up images or any other media type to be displayed on-demand.

Sub-playlists

You can create a loop, or sub-playlist, by inserting both a **Rendezvous Points** at the beginning of a sequence of items, and an **Advance To** command at the end of the sequence in the same Playlist. This means that the items in the sequence are displayed in a continuous loop indefinitely, or until another **Advance To** command from somewhere else instructs the iCOMPEL to break out of the loop.

An example of the sequence of items in a Playlist is as follows:

Rendezvous Point ***Start***
    Default Movie item
    Advance To ***Start***
Rendezvous Point ***Option1***
    Option1 Movie Item
    Advance To ***Start***
Rendezvous Point ***Option2***
    Option2 Movie item
    Advance To ***Start***

In this case, the Default Movie item would play in a continuous loop, until an Advance To command from an Ad hoc page caused the Playlist to advance to Rendezvous Point ***Option1*** or ***Option2***. At the end of the Option1 or Option2 item, the Playlist would return to Rendezvous Point ***Start***.

Creating a Sub-Playlist list

To create a sub-playlist loop, follow these steps:

1. Click on a **Zone** to edit its **Playlist**.
2. Click on the Specials tab.
3. Type the name of the loop into the Rendezvous Point text box (use as descriptive a name as possible).
4. Click the Add button to add the Rendezvous Point to the Playlist.
5. Add the items that must appear in the sub-playlist in the usual manner. If you want a sub-playlist to play just once then insert an image at the end with an indefinite duration.
6. In the Specials tab, select the Rendezvous point by name from the Advance To Rendezvous Point list and click the Add button.
7. Make the Layout live by adding to a Schedule, and clicking the Activate Schedules and Layouts button.

You are now able to switch between Playlists by adding options to an Ad hoc Page and then selecting them, as explained in the next section.

Add Advance To commands to an Ad hoc Page

To add an Advance to command to an Ad hoc page, follow these steps:

1. Select Manage Ad hoc items, and click the Add Item tab.
2. Add an Advance To item by typing in a name and clicking the Add button. Repeat this action to create an advance to action for each Rendezvous point.
3. Select Manage Ad hoc pages, and click the Add Pages tab.
4. Create a new page with a name such as Movie control.
5. Add the Ad hoc items for each Rendezvous point to the Ad hoc page.
6. In the Properties tab, select the users who are allowed to call the commands.
7. Click Apply Changes.

4.1.3 Other uses for Advance To commands

Other uses of Advance to commands:

There are a number of mechanisms for moving to a named **Rendezvous point**. They include:

- An **Advance To** command executed in any currently playing **Playlist** (including its own **Playlist**).
- An **Advance To** command delivered over the iCOMPEL players Ethernet port in the form of an XML message posted to the HTML TCP port.
- You can add **Advance to** commands to Schedule Entries and to Ad hoc pages.
- Transitions of binary input lines (delivered via the RS-232 port). These events can be configured to create Advance To commands. (See Using the RS-232 interface 75)
- Touch events derived from an attached touch sensitive overlay panel. (see Using Touch screens 73)

Any **Playlist** that receives an **Advance To** command interrupts the media it is currently playing and re-starts the **Playlist** at the media item following the **Rendezvous point** identified by its name.

A named **Rendezvous Point** can only occur once in a **Playlist**. However, there are no limits to the number of **Advance To** commands and **Rendezvous points** in a Layout.

4.2 Using Interactivity

You can configure the iCOMPEL to respond to inputs from an external source. These external inputs are known as Events 70 and they may be caused by:

- someone pressing or releasing a defined area on a USB Touch Screens
- someone passing a detector or stepping on a pressure mat that generates a General Purpose Input/Output (GPIO) signal (received through an RS-232 port)
- someone pressing a button on a Remote Keypad (Infra-red controller)

The way the iCOMPEL responds may include:

- executing a Change Layout command 63
- executing an Advance to 67 command

These responses are known as Actions 70, and they may occur immediately, or after a defined time delay (timeout) period.

Together, the combination of an input event and an action in response to it is known as an *interaction*.

Events

You can specify actions for a **Layout** or a **Playlist** when any of the following events take place:

- when the **Touch Screen** is **Pressed** or **Released**.
- when a **Positive** or **Negative** voltage is received as a **GPIO** signal.
- when a Programmable Button (**A**, **B**, **C**, **D**) is pressed on a **Remote Keypad**.

You can also specify time-delayed (Timeout) actions for the following Timeout events:

- a specified number of seconds after the last **Touch** or **GPIO** event was received by the **Layout** or **Playlist**.
- if a **Touch** or **GPIO Input** event has not occurred within a specified number of seconds after the **Layout** started playing.

Actions

The following **Actions** are common to all **Events**:

- **Change to** specified **Layout** when the event (or Timeout) is received.
- **Advance to Rendezvous Point** when event (or Timeout) is received.
- **Pass Event** to other **Zones** or the **Layout** as required. The event is ignored by this Zone or Layout.

Additionally **Playlist Touch** and **GPIO** Interactions can have the action:

- **No Action** specifies that the event should not be passed to other Zones.

Playlist Touch Interactions can have the action:

- **Pass to Web Page**. If the current Zone supports HTML, then Touch Events can be passed directly to the currently shown Web Page. If there is no web page showing, the Event is treated as if the selection is No Action.

Layout and Playlist Interaction

You can specify interaction behavior for both the **Layout** and the **Playlist** for different purposes.

Interactions defined within the **Playlist** have the following properties:

- they are processed if the currently playing item in the **Playlist** is touched.
- the last encountered interaction item is active. This allows complex behavior to be executed by defining multiple interaction items in the same Playlist.

Layout interactions have the following properties:

- they are applied if no **Playlist** interaction item is processed, which means that **Layout** interactions can be considered default interactions.

- they may be applied regardless of the screen location touched.

It is easier to review Layout interaction behavior since all components are presented on the same web page.

Interaction Processing

The way the iCOMPEL processes an event depends upon the source of the event, and on which interaction items are currently active.

The iCOMPEL processes interactions for Touch Screen events as follows:

1. The iCOMPEL creates a list of all Zones that are showing items which are directly underneath the touched screen location.
2. The iCOMPEL processes this list in depth order, starting with the front-most (top) Zone.
3. If the iCOMPEL reaches a Zone that has an active Touch action interaction item, (which is not Pass Event to other Zones) then the iCOMPEL executes the specified action and stops processing.
4. If the iCOMPEL does not encounter a suitable action in any Zone, it performs the Touch action defined for the Layout

An RS-232 Input Event is processed as follows:

1. The iCOMPEL creates a list of all Zones that are showing items which are directly underneath the touched screen location.
2. If the iCOMPEL reaches a Zone that has an active RS-232 input interaction item, (which is not Pass Event to other Zones) then the iCOMPEL executes the specified action and stops processing.
3. If the iCOMPEL does not encounter a suitable action in any Zone, it performs the RS-232 action defined for the Layout

A Remote Keypad Button Event is processed as follows:

1. The iCOMPEL creates a list of all Zones that are showing items which are directly underneath the touched screen location.
2. If the iCOMPEL reaches a Zone that has an active Remote Keypad Button interaction item, (which is not Pass Event to other Zones) then the iCOMPEL executes the specified action and stops processing.
3. If the iCOMPEL does not encounter a suitable action in any Zone, it performs the Remote Keypad action defined for the Layout

Passing Touch Events to HTML Pages

If the current Zone supports HTML, then Touch events are passed directly to the currently shown HTML page. Using this technique allows rich interactive applications to be built using HTML content on stored web pages. You cannot create interactions with live web pages displayed directly from an external source.

When developing HTML applications, it is likely that a number of files are required. In order for the iCOMPEL to keep track of these files during Channel Publishing and Layout Package creation, you must use a specific file structure.

The application must be initiated from a single HTML file, which is added to the Playlist. This file can simply redirect to other files as required. All additional files required for the application must be placed in a single subdirectory named `[pagename]_files`, where `[pagename]` is the name of the initiating HTML file (without its extension). This directory must exist in the same directory as the initiating HTML file. All required content must be placed in the `_file` subdirectory only and not in additional sub-directories or other locations.

4.2.1 Designing interactive layouts

You can design Layouts that respond to user input in various ways.

- send an Advance To command 62 to play a specific item or start a **Playlist**
- change the **current Layout** 63
- change the size and position of a **Zone**
- display hidden **Zones**
- send a signal to another device using the RS-232 port

The following sections offer some general guidance on developing interactive Layouts.

Developing a storyboard

Advance planning is particularly important when designing a Layout that offers choices and options to users. A storyboard is the name given in the film industry for a plan based on a series of sketches of individual scenes. Many customers have reported that creating a storyboard for an interaction sequence can be very useful. The storyboard may be a series of sketches of screen Layouts, or more simply may be in the form of a flowchart. The important factor is to have a detailed plan of all the possible outcomes of different interactive events.

Providing material for optional actions

You must make sure that you have collected and uploaded all the media files you require for any possible scenarios controlled by interaction events. You need to create Playlists for Zones, and create Advance To commands and Rendezvous points in those Playlists, before you start creating your interaction events.

Trade-offs between options for changing the display

You can change the display in response to an interaction either by changing the size and show/hide properties of a Zone or by using a Change Layout command. Each method has advantages and disadvantages.

Method	Advantages	Disadvantages
Change Zone Size and Show/Hide properties	Very fast transition	Continues using existing media players
Use Change Layout command	Resets all media players	Slower, visible transition

4.2.2 General purpose input/output (GPIO)

The iCOMPEL can respond to changes in voltages generated by a general purpose input/output device such as a motion sensor or a pressure mat. These inputs are received through the RS-232 port. It can also send output signals.

For more details see the RS-232 reference page 156

Control line outputs

The iCOMPEL has the ability to control the output state of the RS-232 DTR and RTS lines. The lines are controlled by RS-232 Output Items that must be created and may appear in Playlists. The RS-232 Output Items can assign the state of one or both RS-232 output lines and optionally a string of characters to be output. The RS-232 Output Items are given names in order to make the intended usage clearer in the iCOMPEL configuration.

Each RS-232 Input Item may then be included in a Playlist and used to generate an iCOMPEL Advance To 67 or Change Layout 63 command on a user defined transition of the line. The Advance To or Change Layout commands can be configured to change the media being played by the iCOMPEL.

Control Line Inputs

The iCOMPEL RS-232 port has 4 input lines that may be used to take in binary events such as contact closure or signals from other devices. The available lines are:

- Clear To Send (CTS)
- Data Carrier Detect (DCD)
- Data Set Ready (DSR)
- Ring Indicator (RI)

The lines do not affect the operation of the RS-232 Send and Receive strings.

4.2.3 Touch screens

The iCOMPEL Touch Screen feature allows you to install a touch sensitive panel (connected to the iCOMPEL through a USB port) over a display being driven by the same iCOMPEL media player. When a user touches the overlay panel the iCOMPEL can respond in a number of different ways, for example by acting on **Advance to** 62 or **Change Layout** 63 commands.

You can use the iCOMPEL web interface to configure the response to Touch Screen input. The response can be configured at one or both of the following two levels:

Touch Screen Physical Interface

The iCOMPEL supports USB touch-screen overlays that report absolute X/Y coordinates, key up and key down events.

This interface is via USB into the iCOMPEL.

There is no support for a mouse-like device that sends relative movements, since this requires an on-screen cursor.

Calibration of the Touch Panel

From the menu bar select **Setup**, then **Player Setup**, then **Interactivity**. Select the **Touch Screen** tab and click **Calibrate**.

For further details see Interactivity reference. 139

4.2.4 Configuring touch screen actions

You can configure actions in response to touch screen actions either at the Layout level, or at the Zone level. The iCOMPEL passes the touch event to the Zone immediately under the location that was touched, and if that Zone does not handle the touch action it passes it to the next Zone beneath it until it reaches a Zone that can handle it. If there is no Zone that can handle the touch action, or if the touch event was over part of Layout not covered by a Zone, it is passed to the Layout.

Layout sensitivity

In Layout sensitive mode the iCOMPEL is sensitive to a touch anywhere on the touch panel. The iCOMPEL can react by changing a Layout or following an Advance to command to a new position within any of the Playlists associated with any of the Zones in the current Layout.

Zone and Playlist sensitivity

In Zone and Playlist sensitive mode, the iCOMPEL reacts differently to touch on different parts of the screen that correspond to Zones in the current Layout. The iCOMPEL response may also vary according to the item from the Zone's Playlist that is currently active.

If touch is enabled for a Zone that is displaying an HTML page, touch events are passed to the HTML player for handling. This can allow a user to navigate Web pages using links embedded in the displayed HTML page.

4.2.4.1 Layout

From the menu bar, select **Layouts**, and the **Layout** you want to configure, then select the **Interaction** tab.

On the **Interaction** tab, you can select the action in response to a touch screen event.

The settings may include:

- Whether a touch response is required for this Layout at the Layout level or not
- Whether the touch response is Change Layout command or an Advance to command, and the Layout changed to, or the Zones receiving the Advance to command
- Whether it is the touch or release operation that causes the action
- If using a Layout Change, which other Layout to move to
- The time after which this Layout will revert to another Layout in the absence of a touch event.

4.2.4.2 Zone

To configure touch actions for a Zone, you must either:

- Include an On Touch Advance to command in the Playlist of the appropriate Zone.
- Include an On Touch Change Layout command in the Playlist of the appropriate Zone.
- Play an HTML page in the Zone.

To configure these items, use the Specials Tab of the Playlist editor for the appropriate Zone to add the appropriate Playlist items.

You can include more than one On Touch Advance to or On Touch Change Layout command in the Playlist of the appropriate Zone. Each On Touch command overrides the previous one. This allows the reaction to a touch event to change throughout the Zone's Media Playlist.

If the Zone is displaying an HTML page, it is normal not to have the Zone reactive to touch events since the On Touch event will take precedence over the HTML player. Only Left Mouse Button Up and Down events are passed to the HTML player. To use HTML navigation, either omit any On Touch Playlist items or use the Interact Clear (Special Tab in the Playlist editor) to de-activate any previous On Touch items.

4.2.5 Click on touch

You can determine whether there is audio feedback when a Touch Screen is clicked (pressed).

To play an audio file, then enable **Click on Touch** and specify the **Audio** file to play. No sound is played when the setting is **No Click on Touch**.

Volume

Volume is expressed as a percentage of the Master Volume level. The Master Volume Level is specified on the Audio page in the Setup menu.

If this entry is blank, then 75% of the Master Volume level is used.

Audio File Selection

The **File & Folders** section lists all Audio files in the currently selected folder and provides access to folder (directory) navigation.

To change the current folder, click on a folder name.

To play a specified Audio file, ensure the Use Sound radio button is selected next to the required Audio file.

NOTE: This section is only shown when Click on Touch is selected.

4.3 Using the RS-232 interface port

Most products in the iCOMPEL range have a single RS-232 port presented on a 9 way D type plug.

Sending user defined RS-232 strings at specific events or at Playlist positions. The strings must be defined as their byte values expressed as separated hexadecimal nibble pairs. E.g. `3a 3b 3c 0d 0a`. It is up to the user/installer to create the strings in accordance with the needs of the attached device/s. Sending of RS-232 commands is unaffected by the state of any of the RS-232 control lines.

Receiving RS-232 strings

The most recently received string is reported by the iCOMPEL in the Items Tab of the RS-232 Outputs page. At software version 6.2 (and lower), the iCOMPEL provides no interpretation of the strings. Receiving RS-232 commands is unaffected by the state of any of the RS-232 control lines - see below.

4.4 Displaying part of a Movie or Web page

It is possible to display only part of a web page or part of a movie. You can use this feature to show a specific area of a web page without resizing it.

You can also use this feature to crop a movie designed for a 16x9 (widescreen) format to a 4x3 (standard) format. This avoids resizing the Zone, which would alter the aspect ratio and distort the image.

Displaying part of a Movie

To display only part of a Movie, follow these steps:

- From the menu bar, select **Setup**, then **UI Options**.
- For the **User Interface Options**, select **Detailed** or **Expert**.
- Select the **Layout** and **Zone** for the **Playlist** including the **Movie** and click **Edit**.
- Under **Movie Size**, select **Show part of Movie**, and enter the left and top edge offsets for the top left corner of the part of the Movie that you wish to show in the Zone and enter values for **Movie Width** and **Height.**

Displaying part of a Web page

To display only part of a web page, follow these steps:

- From the menu bar, select **Setup**, then **UI Options**.
- For the **User Interface Options**, select **Detailed** or **Expert**.
- Select the **Layout** and **Zone** for the **Playlist** including the HTML page and click **Edit**.
- Under **Web Page Size**, select **Show part of Web Page**, and enter the left and top edge offsets for the top left corner of the part of the web page that you wish to show in the Zone and enter values for **Web Page Width** and **Height**.

4.5 Mitigating plasma screen burn

Plasma screens can suffer from *screen burn* if parts of the screen always show the same image. This means that an impression of the image can become burnt into the screen. Screen burn is less likely on LCD panels. Many plasma screens have their own built-in burn mitigation features and these should be activated. If, however, you wish to take further steps to mitigate the problem then you need to either change the background image or the Layout at regular intervals and/or use the plasma burn mitigation mechanism built into the iCOMPEL.

Any Layout on the iCOMPEL can have plasma burn mitigation enabled. This will cause the Zones within the Layout to change location at regular intervals. The Zones can flip position horizontally, vertically or be set to "orbit" around the screen.

If you choose to activate burn mitigation and all your Zones are included, you cannot exclude any Zones.

Activating Plasma Burn Mitigation

From the menu bar, select the **Layout**, and then select the **Layout Properties** tab.

For the Plasma Burn Mitigation option, select the Enable Mitigation check box, and then select the scheme and the time interval.

The available schemes are:

- Mirror Layout Zones Left to Right - the iCOMPEL automatically swaps the positions of Zones along a central vertical axis
- Mirror Layout Zones Top to Bottom - the iCOMPEL automatically swaps the positions of Zones along a central vertical axis
- Orbit Zones in Layout - the iCOMPEL automatically rotates Zones around a central point.

When the iCOMPEL moves Zones according to one of these schemes, all Playlists are restarted.

Objective

The overall objective in plasma burn mitigation is to avoid leaving any one pixel on the screen at the same color and intensity for extended periods of time, as this may cause the screen to be permanently affected at that point. Digital signage Layouts are generally more static than broadcast TV, and so present a greater potential danger for plasma screen burn. The objective is to move static Zones of the image to other locations at regular intervals.

Layout Design

If your Screen is a plasma screen you need to be aware of the danger of screen burn and design your Layouts accordingly. The Layout must be useful to people using it wherever the Zones are placed.

Here are some notes to help you design your Layout:

- If the background image has features that relate to the Zones above it, for example a box that makes a frame around scrolling text, or words that must always be seen, then this type of feature has to move in conjunction with the foreground Zone above it.
- To make a background image move in conjunction with the various Zones above it, break the background up into a number of Zones that together cover the whole screen area, and break the background image up into matching rectangles. The parts of the background image are added to the individual Playlist for each individual Zone.
- Make sure that foreground Zones retain their position relative to the background Zones by positioning them so that the center of the foreground Zone is exactly above the center of the background Zone.

4.6 Screen Background

During its boot sequence and in between loading Layouts, the iCOMPEL shows a yellow-green background. This background is also seen between any gaps in a Layout that are not covered by Zones. The screen background color can be changed or replaced by an image. The screen background image can also be used as splash screen or serve as the background Zone for Layouts.

Setting the color to black is not recommended because this makes fault finding more difficult.

Changing the Screen Background

To adjust the **Screen Background**, follow these steps:

1. From the menu bar, select **Media**, then **Screen Background**.

2. Select either **Solid color** or **Image**.
    - If you select **Solid Color**, then select a **color**. More information on Colors... 64
    - If you select **Image**, then browse the file system for an image. More information on Files and Folders.. 43. If you want the image to behave like a splash screen, set a time delay.
3. Click **Save Changes and Activate Schedule and Layouts**.

Screen background page

Use this page to specify an image or color to be shown while the iCOMPEL is transitioning between Layouts.

To display a solid color background, select **Solid Color** and pick a color.

To display an image, select **Image**. You can then use the folder display to select the image file you want to use. You can also define the length of time that the image is displayed for by delaying when the new Layout should be displayed, by using the **Layout Activation** options. For example, selecting **Activate new Layout after 10 seconds** means that your chosen image is displayed for 10 seconds before the new Layout starts.

Click **Save Changes and Activate Schedule and Layouts** to apply your changes.

Part V

Ad hoc content

5. Ad hoc content

The **Ad hoc** mechanism allows an administrator to delegate responsibility for updating specified items in specified **Zones.** This is especially useful in situations where a number of iCOMPEL players are sharing content in a Channel 98 but require specific content on specific players.

Examples of the use of the **Ad hoc** mechanism would be allowing a conference center receptionist to update a list of room allocations each day for the display in the center's lobby only, or to allow a hotel restaurant manager to change the day's menus on the display outside the dining room.

In each of these two examples, the **Layout** would include a **Table** item that was defined as an **Ad hoc table**. The **Ad hoc user** (the receptionist or restaurant manager) would log on to the iCOMPEL and see a specially created **Ad hoc page** that allowed them to update the contents of the table for their display.

The following terms are used to discuss the **Ad hoc** mechanism:

- **Ad hoc User** - a person with limited access who can only update specific content items
- **Ad hoc Page** - the page visible to an Ad hoc user when they log in to make their changes
- **Ad hoc Media Folder** - a media folder containing items that the Ad hoc user can choose from

Items that **Ad hoc users are** allowed to update are either ordinary content items that have been marked as **Customizable** in a specific **Playlist** or **Ad hoc items** that are created separately and then added to Layouts like other content items.

In addition, when you are using a Digital Signage Network utilizing a Channel 98, you can set certain items to be Ad hoc from center 83. This means the Ad hoc user updates the item on the Publisher 101 and the Ad hoc changes are published to each Subscribing 106 iCOMPEL when the subscriber poll the **Publisher** for updates.

Ad hoc items must be added to a **Playlist**, just like other content, by an administrator. They behave as placeholders for local content that is added by the local **Ad hoc user**. Alternatively, an administrator can mark suitable content in a **Playlist** as **Customizable**.

Content types that can be used as Customizable or Ad hoc items include:

- Text items
- TV or Radio stations
- Newsfeeds
- Tables

Ad hoc Schedules, Layouts and Actions

As well as items described above, you can also allow Ad hoc changes to Schedules, Schedule Overrides, and Layouts.

You can also allow Ad hoc access to synchronization 67 actions, such as Advance to.

No user can make **Ad hoc changes** unless the **Customizable** or **Ad hoc Item** exists on an Ad hoc page and the user has permission to access that page.

5.1 Creating Ad hoc items and pages

You can create various types of items and use them as placeholders in Playlists. When the related Layouts are active, the content of these items can be updated by an Ad hoc user. Basic Ad hoc item types are **Tables**, **Text** items, **Newsfeeds** and **TV** and **Radio Stations**. Additional Ad hoc features 82 are also available.

Creating Ad hoc text items

To create an **Ad hoc text item**, follow these steps:

1. From the menu bar, select **Media**, then **Manage Ad hoc items**.
2. Click the **Add Item** tab. For the option **Add Ad hoc Item of type**, select **Text** from the drop-down, type in a name for the text item, and then click **Add**.
3. In the **Ad hoc Input** properties, select an appropriate input mode, for example, to limit the amount of text that can be entered.
4. In the **Ad hoc Item**, add a default text message, and select whether the item has a **local Customization Scope** (which only affects the display from a single iCOMPEL) , or a **remote** (**Ad hoc from center**) 83 **Customization Scope** (which affects all the iCOMPEL in a Channel).

Creating Ad hoc tables

To create an **Ad hoc table**, follow these steps:

1. From the menu bar, select **Media**, then **Tables**.
2. Click the **Add Table** tab, and create a new table. More on Tables... 39
3. From the menu bar, select **Media**, then **Manage Ad hoc items**.
4. Click the **Add Item** tab. For the option **Allow Ad hoc User to override values for Table**, select the table name from the drop-down list then click **Add**. The iCOMPEL displays a reminder warning that the **Ad hoc** table needs to be added to a **Playlist** and also added to an **Ad hoc** page.

Creating Ad hoc Newsfeeds

To create an **Ad hoc Newsfeed**, follow these steps:

1. From the menu bar, select **Media**, then **Newsfeeds**.
2. Add every **Newsfeed** that the **Ad hoc** users may wish to choose from. More on Newsfeeds... 36
3. From the menu bar, select **Media**, then **Manage Ad hoc items**.
4. Click the **Add Item** tab. For the option **Add Ad hoc Item of type**, select **Newsfeed** from the drop-down, type in a name and then click Add.
5. In the **Ad hoc Item** property **Allowed Choices**, select
   - **All Available Newsfeeds** to allow Ad hoc user to select from any configured **Newsfeeds** on the iCOMPEL.
   - **Only Selected Newsfeeds** with the selected **Newsfeeds** for the **Ad hoc** users to choose from.
6. In the **Ad hoc Item** property **Default Newsfeed**, select one of the **Newsfeeds** as default.

Create Ad hoc items for a TV or radio Station

To create an **Ad hoc item** for a **TV** or **radio Station**, follow theses steps:

1. From the menu bar, select **Media**, then **Manage Ad hoc items**.
2. Click the **Add Item** tab. For the option **Add Ad hoc Item of type**, select **TV** or **Radio** from the drop-down, and then click Add.
3. In the **Ad hoc Item** property **Allowed Choices**, select

- **All Available TV** or **Radio Stations** to allow Ad hoc user to select from any configured **TV** or **Radio** Station on the iCOMPEL
- **Only Selected TV** or **Radio Stations** with the selected **TV** or **Radio** Stations for the **Ad hoc** users to choose from.

4. In the **Ad hoc Item** property **Default TV** or **Radio Station**, select the default **TV** or **Radio** Station from the drop-down list.

See more on Managing Ad hoc items... 84

Adding Ad hoc Items to a Playlist

To add a text file to a **Playlist**, follow these steps:

1. Select the **Layout** and **Zone** you want to add the file to.
2. Select the **Special Items** tab.
3. Select the **Ad hoc Item** from the a drop-down list.
4. Click **Add** to insert the item into the **Playlist**.

Creating Ad hoc Schedule Overrides

1. To create an **Schedule Override**, follow Overriding a schedule 20.
2. Add every **Schedule Override** that the **Ad hoc** users may be allowed to choose from.
3. From the menu bar, select **Media**, then **Manage Ad hoc items**.
4. Click the **Add Item** tab. For the option **Add Ad hoc Item of type**, select **Schedule Override** from the drop-down, type in a name and then click Add.
5. In the **Ad hoc Item** property **Allowed Choices**, select
   - **All Available Schedule Overrides** to allow Ad hoc user to select from any configured **Schedule Override** on the iCOMPEL.
   - **Only Selected Schedule Overrides** with the selected **Schedule Overrides** for the **Ad hoc** users to choose from.

Creating Ad hoc Pages

To create an **Ad hoc** page, follow these steps:

1. From the menu bar, select **Media**, then **Design Ad hoc pages**, and **Manage Ad hoc pages**.
2. Select the **Add pages** tab.
3. Enter a descriptive name for the page. Make this page name as descriptive as possible so that it will be easy for ad hoc users to identify it.
4. Click **Add**.
5. Click **Edit**.
6. Select the **Add items** page, and select the **Ad hoc items** to add to the page. Repeat this action for all the **Ad hoc items** you want to add.
7. Select the **Properties** page, and add instructions for **Ad hoc** users in the **User Guidance** text field.
8. Check or clear checkboxes to select the **Ad hoc** users who will be allowed to access this page.
9. Click **Save Changes**.

See more on Managing Ad hoc pages 85...

5.2 Ad hoc Item types

Additional Ad hoc features allow for increased customization of Layout content, which are especially useful in a Channel 98.

Using **Additional Ad hoc** features, an iCOMPEL that is subscribed to a Channel can show quite different content to any other subscriber. This allows an organization to maintain their corporate branding across a number of sites while allowing local users to upload their own content and significantly alter the Layouts and Playlists they have been given access to.

The content types that can used with **Additional Ad hoc** features include:

- Folder Play 87
- Layout
- Schedule
- Schedule Override
- Advance to

Ad hoc Layouts allow the Ad hoc user to select the Layout that they want to see during a particular time slot in the Schedule. An organization could, for example, publish a Channel that has one Layout per Department and an Ad hoc user in each Department can set the iCOMPEL to show only the Layout meant for their Department.

An **Ad hoc Schedule** allows the Ad hoc User to set the time when a Layout should appear on the Display. If, for example, a lunch hour Layout has been scheduled, but lunch hour occurs at different times at different locations, then Ad hoc users at each location can set their time accordingly.

An **Ad hoc Schedule Override** allows the Ad hoc User to force one of a selection of pre-defined Layouts to appear on the Screen and not be interrupted by other Layout changes in the Schedule. This can be used to show a special TV event or an emergency message and not have it interrupted by more mundane information.

Ad hoc Advance To

Ad hoc Advance To allows an Ad hoc user to make certain things happen on demand, for example showing content. For more details on the **Advance to** command see Synchronizing Playlist displays between Zones 67. An example of where this might be useful is in a foyer where an iCOMPEL is showing a corporate video in a continuous loop, but can be made to switch to live TV by a local **Ad hoc** user.

To set up a **Ad hoc Advance To** command follow these steps:

1. Set the **User Interface Policy** to **Detailed** or **Expert** on the UI Options 115 page.
2. Select the **Layout** and **Zone** where you want to add the **Advance To** command.
3. Select the Specials tab, and add a new rendezvous point to the **Playlist**.
4. Add one or more default media items to the **Playlist**.
5. Under the **Specials** tab, select the **Advance To** item that has the same name as the rendezvous point you created in the previous step and add it to the **Playlist**. This forces the **Playlist** to loop back to the start again, regardless of what may follow.
6. Add another rendezvous point to the **Playlist**.
7. Add the on-demand media item/s to the **Playlist**.
8. Add the **Advance To** item that has the same name as the second rendezvous point to the **Playlist**. This forces the second sub-playlist to loop continuously. Leave this step out to revert back to the default media item.
9. On the **Ad hoc Items** page, create an **Ad hoc Advance To Item** and select the names of the two rendezvous points you have created.
10. Add these items to an **Ad hoc Page**.

11. Log in as an **Ad hoc User**, browse to the page you have created, select the advance to that you wish to test and click Save. If the **Playlist** is playing at the time, then play will jump to the start of the Playlist under the selected rendezvous point.

5.3 Ad hoc from center

Ad hoc from center is a mechanism where **Ad hoc** changes to a **Customizable** or **Ad hoc Item** on a **Publisher** 101 iCOMPEL, are published to all Subscribing 106 iCOMPEL players when those subscribers poll the **Publisher** for updates.

This differs from changing a normal media item on the publisher and letting the normal subscribe process update content on subscribers, because it uses the **Ad hoc** mechanism to update the contents, so users do not need to edit a Layout. The **Ad hoc** entry page is only visible on the publisher iCOMPEL.

Subscriber iCOMPEL players generally check for updates to the main channel infrequently as the does not change often. However, the iCOMPEL can be set to check for **Update From Center** Ad hoc items more frequently.

Supported Media

The iCOMPEL supports **Update from Center** for **Ad hoc Text** and **Schedule Override** items.

Ad hoc text

When a user selects an **Ad hoc from center Schedule Override** on the **Publisher**, the selected override runs on both the **Publisher** and the **Subscribers**.

Note: Ad hoc text will only be updated each time it is drawn to the display. So you need to set the text to display, for example, for a minute instead of indefinitely.

Ad hoc Schedule Override

When a user selects an **Ad hoc from center Schedule Override** on the **Publisher,** the selected override runs on both the **Publisher** and the **Subscribers.**

To restore the original Schedule on the iCOMPEL, either select **Normal Schedule** from the **Ad hoc page** or re-publish the channel.

Using Update From Center

When you create an Ad hoc item 80 that can be used with the **Ad hoc from center** mechanism, you can set the item's scope as follows:

Local	(Default) **Ad hoc text** items behave as normal. **Ad hoc users** can log in and change the contents for each iCOMPEL.
Remote	This **Ad hoc item** will only be visible to **Ad hoc users** on the **Publishing** iCOMPEL. Changing the **Ad hoc item** here causes the **Ad hoc item** to be updated on all **Subscribers** as well as the **Publisher**.

Update From Center Polling Interval

On a **Subscriber** iCOMPEL, the **Channel Management** page shows the option **Update From Center Poll Interval**. This determines how often the Subscriber iCOMPEL will poll the publisher for changes in **update from center** actions.

If update from center changes are made on the **Publisher**, then the **Subscribing** iCOMPEL is updated within this time period.

5.4 Making Ad hoc changes

To make an Ad Hoc change, follow these steps:

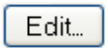
1. Log into the iCOMPEL as an Ad hoc User.
2. Click the Ad hoc page you want to edit.
3. Make the changes to the Item (or Items) shown on the Page.
4. Click Save.

If the Ad hoc Item is currently showing on the screen, then the change is noticed immediately. If not, then it is noticed when the item does appear.

5.5 Manage Ad hoc Items

To manage Ad hoc Items, select Media, then Manage Ad hoc items from the menu bar.

To create a new **Ad hoc Item**, select the **Add Item** tab. More on creating Ad hoc items... 80

To delete an **Ad hoc Item**, click the **Delete** button . You cannot delete an **Ad hoc item** that is in use. To check which items are in use, click the Edit button  and view the Used By Layouts and Used by Ad hoc Pages properties.

Properties

You can set the following properties for **Ad hoc items:**

Name

You must specify a name for the **Ad hoc Item,** and the name must be unique.

Ad hoc Input

You can choose how Ad hoc input is handled. This will control what text a user can enter in the Default Text and Ad hoc User page. The choices are:

- **Rich text** - The Ad hoc item content is rich text and no validation is performed.
- **Plain text** - The Ad hoc item can contain only plain text. Ad hoc user will not be able to customize the color or styling of the rendered text.
- **Integer between 'lower limit' and 'upper limit'** - The Ad hoc content is restricted to integers between the lower limit and upper limit (both inclusive). Only shown if the User Interface Policy is set to Detailed.
- **Plain text of maximum length 'maximum length'** - The Ad hoc content is restricted to the maximum length and is plain text only. Only shown if the User Interface Policy is set to Detailed.
- **Plain text matching** - Only shown if the User Interface Policy is set to Detailed.

Regular Expression - The Ad hoc content must match the regular expression that is provided.

Feedback Message - The message that an Ad hoc user will see if the text does not match the regular expression provided.

There are many web sites and books that provide information about using Regular Expressions.

For example: http://www.regular-expressions.info/javascript.html

Default Text

The default value for this **Ad hoc Item** is used until a user modifies the item using a suitable **Ad hoc Data Entry** page. The

default text must be compatible with the **Ad hoc Input** mode chosen.

Customization Scope

Ad hoc items that support the **Ad hoc From Center** 83 function display this option. There are two choices:

- **Local** - Ad hoc user changes only affect this iCOMPEL.
- **Remote** - changes made to this **Ad hoc item** on the publisher iCOMPEL are applied to each Subscriber iCOMPEL as well.

Customization Status

The **Customization Status** property indicates if this **Ad hoc Item** is currently displaying the default value or has been overridden by an Ad hoc User.

Used by properties

Lists the **Layouts** and **Ad hoc pages** that use this **Ad hoc item**.

5.6 Creating Ad hoc user accounts

You need to create an **Ad hoc user account** for any individual or group who can update Ad hoc content 79 on a Subscriber 106 iCOMPEL in a Channel 98. If the user is responsible for Ad hoc from Center content 83, you must create a user account for them on the Publisher 101 iCOMPEL.

To create a user account for an **Ad hoc user**, follow these steps:

1. From the menu bar, select **Setup**, then **System Setup**, then **Users**.
2. Select the **Add User** tab
3. Enter a username, the user's real name, and a password and click **Add User**.
4. On the **Users** page, check that the new user has permission for **Ad hoc access**.
5. Click **Edit**, and select the correct permissions for the user:
    - If the user needs to have FTP access, select the appropriate check box.
    - If the user requires access to an Ad hoc Media Folder, select the folder name from the drop down list.
6. When you finish making your changes, click **Update**.

5.7 Creating Ad hoc pages

Ad hoc pages are special web interface pages that are seen by Ad hoc users when they log on. Ad hoc users do not have access to any other pages in the iCOMPEL user interface, only to the Ad hoc pages that you create for them. These pages display the text fields that they are allowed to change, or the commands they are allowed to issue.

Some Ad hoc users do have access to an Ad hoc media folder.

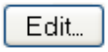
Layout Ad hoc Pages 22 are enabled for all newly created Layouts by default. This means that when **Customizable** or **Ad hoc items** are added to such a Layout then an Ad hoc page for that Layout will be generated containing all the **Customizable** and **Ad hoc items** in that Layout.

Ad hoc pages not directly associated with an individual Layout can be created by setting the User Interface policy 115 to Detailed or Expert and navigating the menu bar via **Media,** then **Design Ad hoc pages** and **Manage Ad hoc pages.**

5.7.1 Manage Ad hoc Pages

To delete an **Ad hoc Page**, click the **Delete** button .

Note: Layout Ad hoc Pages can not be deleted, only disabled via the Layout's Properties tab.

To view or modify an **Ad hoc Page**, click the **Edit** button  .

To add a new **Ad hoc Page**, select the **Add Page** tab and supply a unique name.

5.7.2 Edit Ad hoc page

Use this page to manage the properties and **Ad hoc Items** on the specified **Ad hoc Page**. These settings are used to control which Users can view (and make changes to) the **Ad hoc Items**, and controls how that page is presented to the **Ad hoc User**.

The Ad hoc User can make changes to the listed Ad hoc Items on a Data Entry page, which simply lists all Ad hoc Items that have been added to this Ad hoc Page. Click the **Ad hoc Entry Page** link to navigate to the Data Entry page.

To view the Ad hoc Items on this Ad hoc Page, select the Items tab.

To remove an **Ad hoc item** from a page click the **Delete** button .

NOTE: not available on Layout Ad hoc pages.

You can use the following buttons to adjust the order of items on the **Data Entry Page**:

moves the item to the top

moves the item up one place

moves the item down one place

moves the item to the bottom

To add an Ad hoc Item to this Page, select the **Add Item** tab.

NOTE: not available on Layout Ad hoc pages.

NOTE: only one Ad hoc Schedule Override Item can be added to an Ad hoc Page.

Label is the text that is shown next to this Ad hoc Item on the Data Entry page.

Properties

Page Name

The **Page Name** is used to uniquely identify the **Ad hoc Page** to the user, and is shown in the title section when showing the **Data Entry** page. We recommend using short page names. Every page must have a name and the name must be unique.

User Guidance Message

This message is shown on the Data Entry page, and will typically be used to assist the user when entering values. This item is optional.

Users allowed to Enter Data

List the users who have permission to view and make changes to the **Data Entry** page.

NOTE: Users with Layout Manager User Access permission are able to view and modify all Ad hoc Data Entry pages.

5.8 Ad hoc Folder play

You can add a Folder to a Playlist and give **Ad hoc users** permission to upload their own content into that folder.

An education authority, for example, can publish a Layout that contains a Zone for showing student artwork. Each school that has an iCOMPEL subscribed to that channel can upload their own images into the Ad hoc folder so that the actual content is unique at each school.

Any Ad hoc folder must contain at least one default item that is shown until an Ad hoc user uploads content into the folder. If the channel is re-published, then any content that has been uploaded locally remains in place unless the Ad hoc folder has been removed from the Playlist.

To add an **Ad hoc Folder** to a **Playlist**, follow these steps:

1. Select the **Layout** and **Zone** where you want to add the folder.
2. Add a **Folder** to a **Playlist** and click its **Edit** button.
3. For the **Management** option, select **Ad hoc** and click **Apply**. The iCOMPEL creates a `default_files` sub-folder in the folder you added to the **Playlist**. Any content that is put into the Playlisted folder is shown on the display, and if the folder is empty, then content in the `default_files` folder is shown.

5.9 Ad hoc media folder

The **Ad hoc Media folder** is a special folder on the iCOMPEL that is designated for use by **Ad hoc users**. It is the only **Media** folder (or set of folders) that these users can access.

To use an Ad hoc media, you must add it to the Playlist for a Zone, and enable it for the Ad hoc user. The iCOMPEL plays media from the Ad hoc Media folder, in preference to any other material, if any suitable media is available. If no suitable media is available in the Ad hoc Media folder, the iCOMPEL plays the content of the default folder for that Playlist instead.

If you see the message **No Media Folder has been configured for this user**, you must set a Media Folder for this user in the Users page.

You can use the **Files and Folders** page to browse the file system on the iCOMPEL. The operations listed below are available for this folder.

Folder operations

The following operations are supported for folders:

Delete the folder.

Move the folder.

File operations

The following operations are supported for files:

Delete the file.

Rename the file.

Copy the file.

5.10 Changing Ad hoc content

As an **Ad hoc** user, you can only make changes to specific items of **Ad hoc content** that you have been given permission to change. These are presented to you on **Ad hoc pages**.

To change **Ad hoc content**, follow these steps:

1. Log in to the iCOMPEL.
2. Select the **Ad hoc page** for the content you want to change.
3. Make the necessary changes to the Item or items shown on the Page. More details about different kinds of changes are shown below.
4. Click the **Save** button.
5. If the **Ad hoc** Item is currently showing on the display your change is visible immediately. If your item is not showing, the change you made will be visible the next time your item is shown.

Making changes

The iCOMPEL is attached to your network and, given a username and password, can be accessed from any PC or MAC within your establishment through any web browser. Once logged onto your iCOMPEL, you are presented with a set of facilities to customize the display as listed below:

Type	Customization
Text	Change certain text that is scrolling across the screen: a visitors welcome message, for example.
TV	Change the TV station that may be showing on the screen.
Table	Change the text in certain cells in a table: update a timetable, for example.
News Feed	Change the source for a news ticker that may be showing on the screen. Change from political to sports news, for example
Media Folder	Manage a collection of media items (typically still images held in a folder) that are being displayed on the screen. Show a collection of artwork or photos, for example.
Layout	Change the entire screen display. Pick the one you want to show from a list of options.
Diary Entries	Change the time at which certain changes are made to the display. Alter the time at which the lunch menu is shown, for example.
Advance To	Activate events on demand. Show videos on demand by selecting them from a list, for example.

Change details

Text

To change text that may be showing on the Screen:

1. Click on Pages and then on the appropriate page name.
2. Locate the text item that you wish to edit by name (there may be more than one).
3. Enter new text into the appropriate text area or edit the existing text. Be careful to follow any instructions that may appear to the left of the text box. Once changes have been made, click Save'.
4. To remove the text from the Screen, delete all the text from the text box and save.
5. If the text is scrolling vertically on the screen, then pressing the Enter key in the text box will create line breaks in the text.
6. Only the Administrator can change the font, color, direction or speed of the text.
7. To log-out, simply close the browser.

TV Station

To change the TV station that may be showing on the Screen:

1. Click on Pages and then on the appropriate page name.
2. Use the mouse to drop down a list of possible TV Channels. Select one and click Save'.
3. The iCOMPEL may not be showing TV at the time of the change, but when the time comes, it will show the new channel.
4. To log-out, simply close the browser.

News

To change the source of a newsfeed that may be showing on the screen:

1. Click on Pages and then on the appropriate page name.
2. Locate the news item that you wish to change by name (there may be more than one). Use the mouse to drop down the News Feed selection list. Select one with the mouse and click Save'.
3. If the news feed that you would like to show does not exist in the list, then forward the request to the Administrator.
4. There are many thousands of newsfeeds available covering a wide variety of topics. To get some idea of BBC newsfeeds, for example, visit the link below.

   http://backstage.bbc.co.uk/data/Data
5. To log-out, simply close the browser.

Advance To (On Demand)

A number of actions may have been made available to you. Each action can be selected from a drop-down list and the name that should describe what it does. If in doubt, ask the Channel Administrator.

To make something happen on demand:

Click on Pages and then on the appropriate page name.

Select the appropriate action from the drop-down list.

Click Save'.

The iCOMPEL may not necessarily be showing the program that the on-demand button applies to. If not then nothing will happen.

To log-out, simply close the browser.

Screen Layout

To change the entire screen Layout:

Click on Pages and then on the appropriate page name.

Use the mouse to drop down a list of possible Layouts. Select one and click Save'.

To log-out, simply close the browser.

Media Folder

Click on Media Folder.

The contents of a folder inside the iCOMPEL is shown in a listing on this page. The files, typically images, in this folder will have been programd to show on the screen one after each other.

To view a file, click its name. If the file is a video, however, it may not play on your PC if the PC does not have the appropriate software.

By uploading, deleting and renaming the files, you can customize what is shown on the screen.

To upload (copy a file from your PC to the iCOMPEL):

Click the "Browse" button to bring up the familiar "Open File" type form.

Use the form to locate the file on your PC that you wish to copy onto the iCOMPEL.

Select the file and click the "Open" button.

Click the "Upload" button shown above.

It may take a while, depending on the size of the file, but when the upload is complete, the file will appear in the listing above and is shown on the screen in due course.

To remove a file from the iCOMPEL:

Press the "Delete" (red "X") button alongside the file name in the listing.

Note: If you delete all files in the folder, then default media may reappear on the screen.

The files in the folder are programd to play in either a sequential or random order. If sequential, then it is in alphabetical order of file name - numbers first (0-9) followed by upper case letters (A-Z) and, finally, lower case letters (a-z). You can customize the order of play by renaming the files. It is easier, however, to rename the files before uploading them to the iCOMPEL.

To rename a file already on the iCOMPEL:

Click the "Cut" (scissor) button alongside the file name.

Enter a new name.

Click the "Move File" button.

Events

To alter the time span of a particular event on the Screen:

1. Click on Pages and then on the appropriate page name.
2. Locate the event that you wish to reschedule by name (there may be more than one of them).
3. Use the mouse to drop down the hours, minutes and seconds lists and select a new start and/or end time for an event.
4. Tick the days of the week on which this event takes place.
5. Click 'Save'.

If the current time falls within the new time span, the event will trigger immediately unless another event began more recently than the new start time for this event.

If an event exists to switch the audio on or off and you need the iCOMPEL to be silent for a particular occasion then just re-program the audio off event to start at the current time. Remember to reset the audio off event back to its original time once the occasion has passed.

Similarly, you could switch the display back on for an after- hours occasion.

To log-out, simply close the browser.

5.11 Ad hoc theming

Ad hoc theming is a way to change the way the user interface appears to an Ad hoc user when they use the iCOMPEL. Theming lets you customize the page header and the text or "strings" that appear on the page.

Example uses of this functionality include including a company logo in the page to make it consistent with other products within a company. Another use could be providing a translation of these pages in language not already supported on the iCOMPEL.

Currently the theme applies only to Ad hoc users on the current iCOMPEL or users on any iCOMPEL subscribing to this iCOMPEL via a channel. Themes are not currently stored in layout packages.

The **Ad hoc Theme** page is split into two tabs:

Properties

Here you can set the basic options for the theme.

Ad hoc Theme Disabled/Enabled

Turns the customized interface on and off for Ad hoc users.

Header text/background color

Specify the color of the text and its background in the page header.

Page Logo

This section lets you choose a logo to use in the page. A list of files is presented, and any suitable image files appear with a radio button next to them so you can select which image appears as the page logo.

Additionally, the **Alignment** option lets you choose which side of the page the logo appears. The page title will appear opposite it.

Strings

On this tab, you can provide translations or alternate text for each of the messages that appear in the Ad hoc pages.

For each message, if a message is supplied then that message is shown in place of the text next to it in the interface. It is shown "as is" with no translation. Otherwise, if the box is left empty, then the default text next to that box is shown, translated if necessary as normal.

The messages are split into three sections according to the page they appear on:

Homepage

Messages that appear on the Ad hoc homepage.

Ad hoc Item Edit Pages

Messages that appear on pages for editing Ad hoc items. Note that the Ad hoc items themselves still retain their original name.

Media Folder

These messages are used to change the text in the file manager.

Part VI

Sharing content using Layout Packages

6. Sharing content using Layout Packages

A Layout Package is a single file which contains all the media and control files required to fully install one or more Layouts on another iCOMPEL.

Layout Packages can be stored on DVDs, memory sticks or file servers and can also be sent by e-mail. This allows easy distribution of content.

Transferring Layouts from one iCOMPEL to another is a three-step process as follows:

- Create the Layout Package 94 and include selected **Layout**(s) on the first iCOMPEL.
- Copy the Layout Package 95 from the first iCOMPEL to the second.
- Install the Layout/s from the Layout Package 95 file onto the second iCOMPEL.

6.1 Layout packages

This page allows the user to create, delete and install Layout Packages on this iCOMPEL.

The **Layout Packages** tab lists all Layout Packages available to this iCOMPEL. The following actions are available for each Layout Package:

- The **Delete** button removes the Layout Package from this machine. Note that this removes the Layout Package file only. It does not remove any media or any Layouts contained in this Layout Package that you have already installed.
- Press the **Information** button to view Layout Package content 96.
- The **Install** button copies the Layouts and media contained in the Package to this iCOMPEL. If any items in the Layout Package already exist on this iCOMPEL but have different values, then the user is asked how to handle these conflicting items 95.

To create a new Layout Package use the 94 **Create** 94 tab 94.

The Status tab displays information text and progress about the current Install or Create Layout Package operation. This tab page is only shown if a Layout Package operation is underway, or has previously completed.

Layout package properties

Name

The Name is used to uniquely identify the new Layout Package. The Name must be specified and can only contain the characters [a-z or A-Z], numbers [0-9] or a space.

Description

An optional description which is included in the Layout Package.

Include Layouts

Select the Layouts to be includes in the Layout Package. At least one Layout must be selected.

6.1.1 Creating a Layout package

To create a **Layout package**, follow these steps.

1. Finalize the **Layout** or **Layouts** that you wish to include in the Layout Package.
2. From the menu bar, select **Layouts**, then **Layout Packages**.
3. Click the **Create** tab. Enter a suitable name and optionally a description for the new Layout Package. Check at least one Layout to include in this Layout Package.

Note that Layouts referenced by Change Layout commands from Layouts that are checked will also be included.

4. Click **Create Layout package**. The Status tab will then be shown.
5. Wait for the **Layout Package** creation process to complete. You can click the link to the **Layout Package** file name to download it to your computer.
6. Send copies of the **Layout Package** ZIP file to the people who require them.

⚠ There is a 2GB size limit to Layout Packages ZIP files. Because a 40 minute MPEG-2 encoded video film can be 2GB in size, you may need to exclude large video media files before creating your Layout Packages.

6.1.2 Copying a Layout package

Copy a Layout Package to the iCOMPEL

1. From the menu bar, select Layouts, then select the Layout Packages tab.
2. Click the Browse... button, and select the Layout Package file from your desktop computer.
3. Click the Upload button copy the file to the iCOMPEL. A progress bar will be shown while the copy is taking place.
4. Once complete, the Layout Package will be shown in the list.

ℹ Layout Packages will always have the file extension .ZIP. Files that do not have this file extension will not be shown in the Layout Package page.

Copy a Layout Package from the iCOMPEL

To copy a Layout Package from the iCOMPEL to the desktop computer, click on the link in the Filename column.

Using FTP to copy a Layout Package

Alternatively, Layout Package files can be copied to and from a iCOMPEL by using an FTP client (for example Internet Explorer 6) on a desktop computer. Browse to the `/HOME/package` folder on the iCOMPEL.

6.1.3 Installing a Layout package

To create a **Layout package**, follow these steps.

1. Obtain the Layout Package ZIP file that contains the Layouts that you want to import.
2. From the menu bar, select **Layouts**, then **Layout Packages** and upload the ZIP file from your PC.
3. Click the **Install** button to import the contents into the iCOMPEL.
4. If there are existing items on the iCOMPEL that have the same name as an item in the Layout Package but are not identical then you are asked how to deal with any conflicts 95.

6.1.4 Layout package conflicts

When you install a **Layout Package**, the iCOMPEL merges items in the package (including Layouts, Special Items, Ad hoc Items, Ad hoc Pages and media files) with existing items. Conflicts occur when an item in the package is identical to an existing item, but has different property values.

You can handle conflicts in one of three ways:

- **Do not Copy**. Where items are in conflict, then keep the existing iCOMPEL items unchanged. This is equivalent to not copying any conflicting items or files from the Layout Package. All non-conflicting items are installed as expected.

- **Copy and Replace**. Replace conflicting local items with items from the Layout Package. This option will permanently overwrite local items.
- **Copy but keep both items**. During the Install process, items in the Layout Package are renamed to avoid conflicts with local items. A message is shown in the Status tab indicating the new item names or filenames.

You may specify different conflict actions for media files and Layout and Special Items.

In some cases, selecting *Copy and keep both items* may cause additional items to be in conflict. For example, if an Ad hoc Text item is in conflict and is contained in a Layout that exists locally but is identical and you choose the copy but keep both items option, the Ad hoc Text item is renamed. This causes the Layout in the Layout Package to be modified to reference the newly renamed Ad hoc Text item. This in turn causes a Layout conflict, since the local Layout and the modified Layout are now different. Additional secondary conflicts are shown on a separate line within the Conflict Details section.

Click the **Install Layout Package** button to proceed with the Install, or the **Cancel Install** button to stop the installation process.

6.1.5 Layout package information

This page lists the contents of a **Layout Package**. This includes:

- details of the originating iCOMPEL
- a list of the Layouts included in the package
- a list of the Special items included in the package
- a list of other Additional Settings, such as color items and special fonts
- a list of the media item files in the package.

This information may help you resolve any Layout package conflicts 95 where items in the package you are installing have the same names as items already on your iCOMPEL.

Part VII

Channels and Signage Networks

7. Channels and Signage Networks

Channels provide an easy way to display the same content at multiple locations by setting up a Digital Signage Network of iCOMPEL players.

A collection of iCOMPEL players that all play the same content on their Screens is known as a ***Channel***.

Components of a Channel

A Channel has three parts:

- A Publisher 101 iCOMPEL.
- The Channel Content Server 100 (**CCS**). This is the way the contents of the channel are delivered to the subscribing.
- One or more Subscriber 106 iCOMPEL players

The Publisher iCOMPEL publishes content to the CCS, and each Subscriber iCOMPEL polls the CCS for the most up-to-date content. On small networks, the Publisher iCOMPEL can act as the CCS.

The contents of the channel come from the Publisher and are distributed via the CCS to the subscribers.

Note: Some iCOMPEL players are sold as subscriber only and you cannot use them to publish content from.

What's sent in a Channel?

The contents of a **Channel** is a collection of **Schedules** with all their associated **Layouts** and **Media**. When you publish a **Channel** all the **Schedules**, **Layouts** and **Media content** are included.

Items not currently transferred via a channel:

- Any custom fonts 65 you may have installed.
- User records, including Ad hoc users.

If your content relies on either of the above, you will need to ensure they're present on each of the subscribers.

Using a Channel

First you need to assign a channel role 100 to each iCOMPEL that will be a member of the channel. One iCOMPEL will be the publisher and the rest will be subscribers. You will also need to decide the best way to get the content from the publisher to the subscribers. This is covered in the Channel Content Server 100 section.

Then you will need to create the signage content on the publisher. When producing content for a signage network you need to take into account:

- The subscriber iCOMPEL models - are they all powerful enough to show the content? Some items such as high resolution movies, or Flash content that requires a faster CPU may not be shown on lower end models with the same quality as high end models.
- Check the resolution of the screens attached to the each iCOMPEL. Ideally the displays should all be set to the same resolution. Otherwise, you will need to take into account that the content will be cropped when displayed at lower resolutions than designed for.

Once you are happy with the content, and are ready to publish this across all boxes, simply press the **Publish** button that appears at the top of each screen on the publishing iCOMPEL.

After a period, the subscriber iCOMPEL players will discover that the channel contents has been updated, and start showing the new content.

Note: Changes made on a publisher iCOMPEL will not be published to a channel until you publish them 104.

You may be interested in adding Ad hoc content 109 to your channel - this will let you have content that differs on a per iCOMPEL basis. For example, if you have iCOMPEL players on different sites, you may with to allow local users to add messages local to them. Or, if you have iCOMPEL players outside a room, you may wish to show the timetable for that room. Note that subscribers will need to have user logins with the appropriate Ad hoc permissions to be able to update this.

You may also wish to manage and publish more than one channel from your publisher. This is done with Multi-channel publishing 105.

Software version compatibility

It is recommended that the **Publishing** iCOMPEL and each **Subscribing** iCOMPEL should run the same software version.

However, a **Subscribing** iCOMPEL running Version 7 software can subscribe to Channels created on a **Publishing** iCOMPEL running Version 5.2.3 software.

Note: Each Subscribing iCOMPEL with a lower software version than the publisher iCOMPEL will fail to subscribe to the channel if the channel contains features that it does not support.

See the following topics for more details about managing Channels:

- Channel Roles 100
- Publishing 101
- Channel Content Server 100
- Subscribing 106
- Multi-Channel publishing 105

7.1 Channel Roles

In a channel, we define roles that determine how the iCOMPEL behaves. There are three distinct roles:

Role	Explanation
Stand-alone	The iCOMPEL is not part of a Channel, and its content is used for this iCOMPEL only.
Publisher 101	The iCOMPEL is part of a Channel, and its content is used by one or more other iCOMPEL players which are subscribers
Subscriber 106	The iCOMPEL is part of a Channel, and downloads its content from a Channel Content Server 100

Setting the Channel Role

1. Select **Channels** from the menu bar, then **Manage Channels**.
2. Select from one of the three possible roles, and click **Change role** to apply your changes.
3. If the new role is Publisher 101 or Subscriber 106, then you'll need to tell the iCOMPEL how to publish or subscribe its content i.e. the Channel Content Server 100.

Note: Certain models are pre-configured as subscriber-only models and cannot be configured as Channel Publishers.

Note: It is not possible to change the role of the iCOMPEL if it is a Channel Publisher, and there is more than one Channel defined. You must delete all but one Channel to proceed.

7.2 Channel Content Servers

A **Channel Content Server** (**CCS**) receives and stores Channel contents from a **Publisher** iCOMPEL. Each **Subscriber** iCOMPEL polls the **CCS** for the latest Channel contents.

Deciding what to use as a Channel Content Server

How you publish your channel depends on the number of iCOMPEL players in the channel and the network they are connected to.

How	Description	When would you use this?
On the publishing iCOMPEL	Channel files are stored on the publishing iCOMPEL itself and are available to subscribers via HTTP, HTTPS or FTP.	Typically when you only have a small number of subscribers (less than 5), that won't slow the publisher down. This method requires no extra hardware.
Using a USB memory stick	Channel files are published onto a USB memory stick (not included). This stick is then taken to each subscriber which automatically reads the channel from it. This process has to be done each time the channel is updated.	This would be useful when your iCOMPEL players are not connected to any network or you don't want the channel to be published through the network.
Using an external server	The publishing iCOMPEL uploads the channel content via FTP to a separate server which then makes the files available to the subscribers, either via FTP, HTTP or HTTPS.	An external server is recommended for channels with a larger number of iCOMPEL players or when there are larger media files in the channel. This method takes the load from the publisher iCOMPEL. This method does not require any special FTP or web server to function and you tie this into your existing server hardware or your web host.

Note: HTTPS is recommended over HTTP when transferring channel content.

Network and Bandwidth Considerations

Network based channels will require both the publisher and subscriber to be able to connect to the CCS either via a local network or the internet.

Any network based channel will not work if there is a problem with network connectivity or the supplied credentials for either the publisher or subscriber for an external server are incorrect.

How much bandwidth will be used will depend on the layouts and media being used as well as the number of iCOMPEL players subscribing to the channel. If there are large media files such as videos, then they will need to be transferred and this can increase the time it takes for the subscribing iCOMPEL to begin playing the channel. However, once the media is downloaded, it will not need to be downloaded again and only new or updated items will be transferred.

The subscribers will also periodically check the publishing source for updates to the channel. If your channel does not update frequently, then you decrease the rate at which the subscribers check for new content. On the other hand if you do this, it will take longer for the subscribers to notice when the channel has changed.

7.3 Publishing

Content can be published either manually or automatically.

In automatic mode, the currently active channel is always published at the specified time of day.

Channels can be published manually from channel publishing page.

After you have published Channel contents to a file store or **Channel Content Server** (CCS) 100 you can configure another iCOMPEL to subscribe to the **Channel**. The Subscriber 106 iCOMPEL must be able to access the CCS over a network.

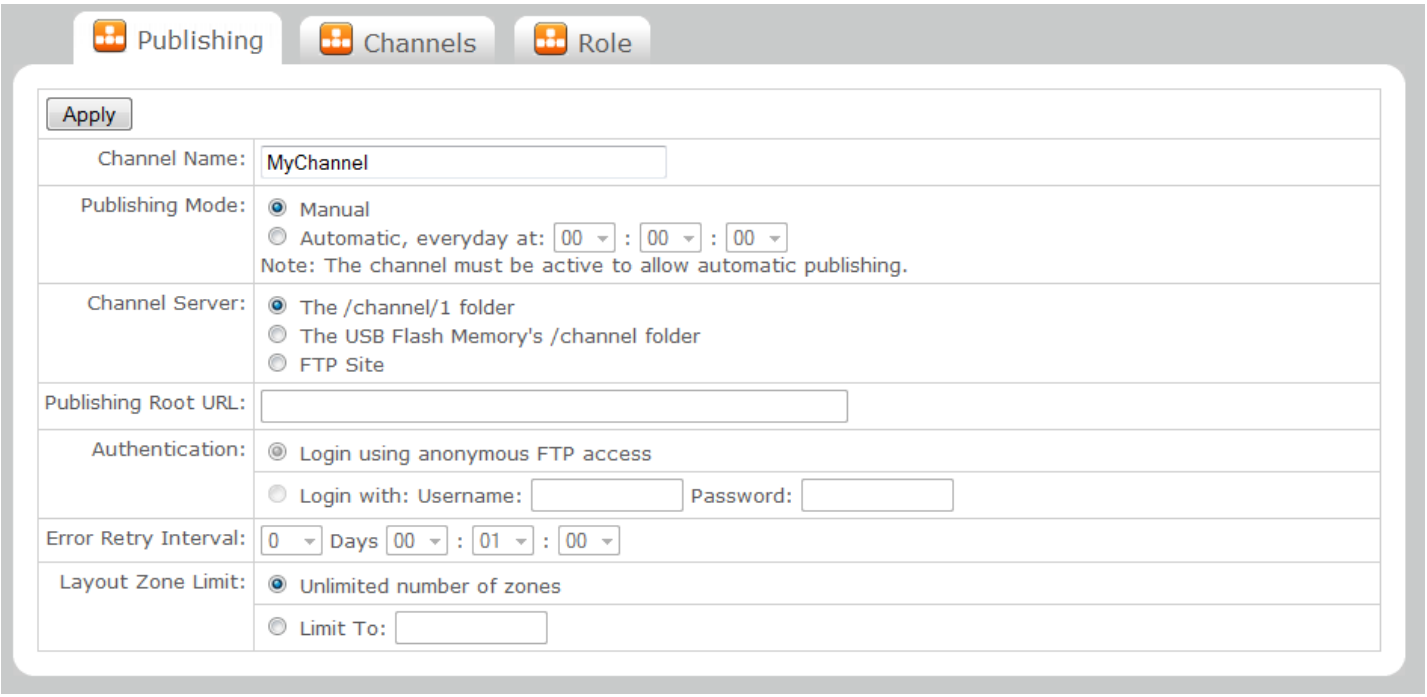
You create the Channel contents on the Publishing iCOMPEL, and you can create additional Channels that contain different Schedules. For more information see Multi-channel publishing 105.

To set up an iCOMPEL as a Publisher you must first change its role 100. You must then configure the channel settings 102 for the publisher to be able to publish.

7.3.1 Configuring the Publisher

Once you have set the channel role 100 and decided which channel content server 100 to use, you need to configure the publishing iCOMPEL.

When you've set the channel role, you'll be taken to the Manage Channel page. Or, you can click on **Channels**, then **Manage Channels**.



The Publisher Configuration Tab

You can then fill in the settings for this Publisher and press **Apply** to save them.

If you're using FTP to publish, then the iCOMPEL will attempt to log into the FTP server using the supplied server name and optional username and password to test. You will be notified if it is able to do this successfully or not.

Explanation of the settings

Name	Description
Channel Name	This is the identifier for the channel and will appear at the top of the page in the subscriber and the publisher when that channel is active. It doesn't matter what you write in there, but a brief description of the channel content could be very useful to you.
Publishing Mode	Manual: The user will have to publish the channel from channel publishing page or Automatic: The channel will be published at specified time every day

	Note: The channel must be active to allow automatic publishing.
Channel Server	This radio box lets you select how the channel is published.

Option	Description
The iCOMPEL's `/channel/N` folder	The channel is published to a folder within the publishing iCOMPEL. Subscribers can then access the content via FTP, HTTP or HTTPS.
The USB Flash Memory's `/channel` folder	The channel is published to the folder `/channel` on a USB storage device attached to the publishing iCOMPEL.
FTP Site	The channel is published by uploading the channel content to an FTP site. You will need to enter any username and password that you have for this.

Publishing Root URL	If you are publishing via FTP, then this text box will be enabled for you to enter the address and subdirectory for the server. A valid ftp url begins with `ftp://` followed by the host name or address followed by the full folder path in which to place the channel contents. Example valid FTP URLs: • `ftp://example.com/mychannel/` • `ftp://192.168.0.23/channel/` • `ftp://somehost/a/b/c/` The publishing iCOMPEL will attempt to create the relevant folders on the FTP server if they do not exist, but this will fail if the login name and password do not have the appropriate write access for this server.
Authentication	If publishing via FTP, then you need to select whether the destination server requires authentication or not. If it does, then you should select the Login with radio option and enter the username and password.
Error Retry Interval	If you are publishing the channel via FTP and the iCOMPEL fails to connect to the FTP server, then the iCOMPEL will wait for this period of time before trying to publish again. You can set the days, hours, minutes and seconds between attempts.
Layout Zone Limit	Optionally, you can limit the number of zones in any published layouts. If this is set then you will not be allowed to publish any layouts containing more zones than this value. This setting would be useful if, for example, you were publishing to a number of less powerful subscribing iCOMPEL players and wanted to ensure you will not overload them.

Calculating required disk space

Most digital media content, with the exception of video files, does not require large amounts of storage. If your Layouts do not include any video files, then a disk space allowance of 1GB to 2GB should be sufficient.

If your Layouts include video files, you must increase this allowance by at least 2GB per hour of standard quality video. Higher quality video may require even more disk space.

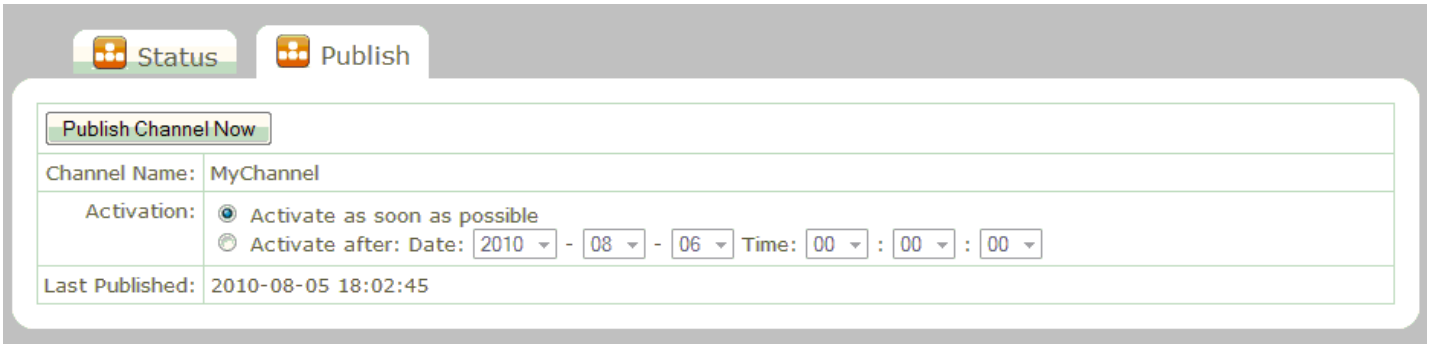
You can see the size on the Status page of the Publisher iCOMPEL after publishing.

A Subscriber iCOMPEL requires at least twice the disk space to store the channel twice - once for channel subscribing purposes and another for displaying.

7.3.2 Publishing a Channel

Once the channel role[100] is set to publish and the publisher configured to publish[100], then you are ready to begin publishing.

When you are satisfied with the schedule you have on the publisher, you can publish it. Click on the menu item **Channels** and **Publish Channel**. This will take you to the following page where you can publish your channel:



The publish tab

If you are publishing to a USB memory stick, then you will need to insert that into the iCOMPEL before you press the publish button.

You can simply press **Publish Channel Now** to begin the publish process or you can set a time in the future to activate this channel.

Alternatively, you could use the **Activate after** option. This will immediately start the channel publishing as per the **Activate as soon as possible** option, but the subscribers will not show the updated channel contents until the chosen date.

Activate after is useful to ensure that all the subscribers start showing the channel content at the same time rather than as soon as they can copy it across. A slow network with many large media files in the channel could lead to a large difference in when each subscriber completes downloading the channel content.

The Publishing Process

What happens next depends on how the publisher is configured:

To an iCOMPEL or External Server

If the publisher is configured to publish the channel to itself or an external FTP site, then the copying process will begin. A progress bar will be displayed showing how much of the upload is complete.

The next time the subscribing iCOMPEL players check the channel, they will download the channel contents.

To a USB Storage Device

You will need an empty USB flash drive to publish to. The flash drive will need to be large enough to store your channel content on - all channel content will be stored on it so if there are large movie files or images then this will need to be taken into account.

Once the channel is ready for publishing, insert the USB drive into any of the USB ports on the iCOMPEL and publish as above.

The channel will be copied to it and a status bar will show the progress of the channel copying. When it is complete, you can safely remove the device and take it to the subscribing iCOMPEL players.

Publishing Completed

However the content is distributed, you will be alerted on this page as to whether the publishing was a success or whether there were errors during the process.

Updating the Content

If you change the schedule on the publisher and you wish to re-publish it, then you simply repeat this process again. The subscribing iCOMPEL players will be polling to look for updated content or in the case of using USB as the Channel Content Server, will be updated the next time you insert the stick into the subscriber.

Additionally a banner will be shown when the publisher contents have been changed but not published:

Clicking the link in this banner will take you to the publish channel page as above.

7.3.3 Multi-channel publishing

You can publish more than one channel from a Publisher iCOMPEL. Although Schedules are unique to each Channel, Layouts and contents may be shared by more than one Channel.

Remember that the iCOMPEL always publishes the currently **Active** Channel only.

The name of the currently active channel is displayed at the top of each screen on the publisher iCOMPEL and the subscriber iCOMPEL. As suggested previously, it is therefore helpful to give the channel a useful name.

Adding new Channels

To add a new Channel, follow these steps:

1. From the menu bar, select **Channels**, then **Manage Channels**.
2. Click the **Add Channel** button.
3. After the iCOMPEL creates the new channel, click the **Activate** button for it.
4. Create all the content for the new **Channel**.
5. Follow the usual steps to Publish the Channel 101.

Deleting a Channel

Before you can delete a Channel, you must make sure it is not **Active** by activating a different Channel.

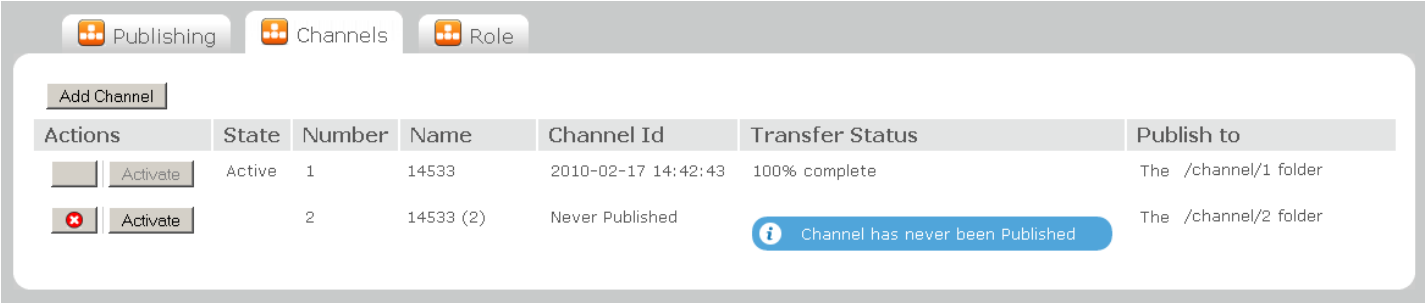
Select **Channels**, then **Manage Channels** and click the **Activate** button for a **Channel** you do not want to delete. You can then click the Delete button for the Channel you wish to remove.

When you delete an inactive channel, only its schedule is deleted. All other media and content for that channel stays on the iCOMPEL.

Working with multiple channels

You must **Activate** a **Channel** before you can work with it or publish it.

To change to a different Channel on the Publisher iCOMPEL select **Channels**, then **Manage Channels** and click the **Activate** button for the **Channel** you want to select.



Multi channel selection screen

7.4 Subscribing

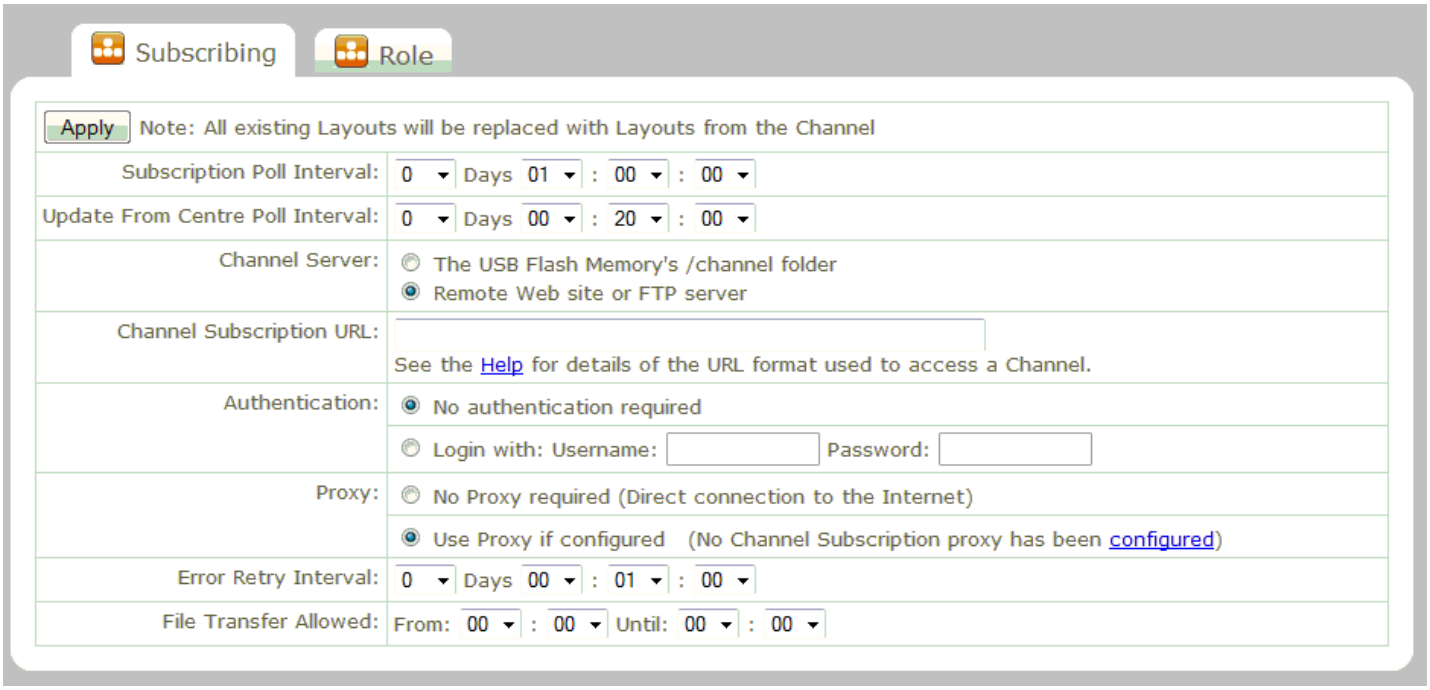
You can use an iCOMPEL as a **Subscriber**. This means that this iCOMPEL receives all its content (other than Ad hoc content 79) from **Channel Content Server** (**CCS**) or from a USB device 100.

To use an iCOMPEL as a **Subscriber**, you must first change its role 100.

Note: You can log in to a **Subscriber** iCOMPEL and make changes (other than Ad hoc changes) but these are removed the next time the **Channel** is re-published.

7.4.1 Configuring a Subscriber

Once an iCOMPEL is configured with the role of subscriber, its subscription settings can be configured. The subscription configuration page is available by clicking on the menu item **Channels** then **Manage Channels**.


Subscribing
Role
Apply
Note: All existing Layouts will be replaced with Layouts from the Channel
Subscription Poll Interval:
0 Days 01 : 00 : 00
Update From Centre Poll Interval:
0 Days 00 : 20 : 00
Channel Server:
The USB Flash Memory's /channel folder
Remote Web site or FTP server
Channel Subscription URL:
See the Help for details of the URL format used to access a Channel.
Authentication:
No authentication required
Login with: Username:
Password:
Proxy:
No Proxy required (Direct connection to the Internet)
Use Proxy if configured (No Channel Subscription proxy has been configured)
Error Retry Interval:
0 Days 00 : 01 : 00
File Transfer Allowed:
From: 00 : 00 Until: 00 : 00

The channel subscriber configuration page

Once you fill in the details on this page and press Apply, the iCOMPEL will begin subscribing to the channel and will periodically check the channel for updates.

Subscription Poll Interval

This time period determines how often this subscriber iCOMPEL checks for new content on the channel content server . This process is called polling.

Note: You'll want to set this value so the iCOMPEL polls often enough to pick up the changes to the channel but not so often that the network or Channel Content Server 100 becomes overwhelmed with requests.

Update From Center Poll Interval

Set the poll interval for checking on changes to any Ad hoc from center 83 items.

The same note for the subscription poll interval about how often to poll for new content applies here. Update From Center updates require less bandwidth, however, and you would probably set this to poll more often.

Channel Server

This option is for determining the Channel Content Server 100 or where the channel is being published from.

The following two options are available:

The USB Memory stick's /channel folder	The channel is being published via a USB Memory Stick
Remote Web site or FTP server.	The channel is being published via an external server or an iCOMPEL

Channel Subscription URL

If your channel content server is not a USB device, then this option needs to be filled in to tell the subscriber where to find the channel. What you put in here depends on where the content is being published:

Where Published	Channel Subscription URL format

The Channel is published on an iCOMPEL running Version 8, Version 7 or Version 6 software:	The required URL is of the form:
	`http://<publisher>/data/channel/<channel_number>`
	Where `<publisher>` is the host name or IP address of the iCOMPEL to subscribe to and `<channel_number>` is the channel number. You can find out the channel number for a given publisher by visiting it publishing configuration page 102 and looking at the option named **Channel Server** on the page.
	You can also specify the protocol for connecting to the iCOMPEL publisher. Allowed protocols are HTTP, HTTPS and FTP.
	FTP urls differ slightly and are of the form:
	`ftp://<publisher>/channel/<channel_number>`
	Example subscription URLs:
	• `https://192.168.1.54/data/channel/1`
	• `http://iCOMPEL9038/data/channel/2`
	• `ftp://iCOMPEL9038/channel/2`
	• `ftp://192.168.1.54/channel/5`

Version 5 software:	The required URL is of the form:
	`http://<publisher>/data/channel`
	Where `<publisher>` is the host name or IP address of the iCOMPEL to subscribe to.
	You can also specify the protocol for connecting to the iCOMPEL publisher. Allowed protocols are HTTP, HTTPS and FTP.
	FTP urls differ slightly and are of the form:
	`ftp://<publisher>/channel`
	Example subscription URLs:
	• `https://192.168.1.54/data/channel`
	• `http://iCOMPEL9038/data/channel`
	• `ftp://iCOMPEL9038/channel`
	• `ftp://192.168.1.54/channel`

If the Channel has been published on an FTP site	If you wish your channel to be retrieved via FTP, then you can use the same URL as used to publish the channel on the publishing iCOMPEL. Your Channel Content Server might also be configured to serve the uploaded channel files via HTTP or HTTPS. The particular URL you would use depends on the setup of the server and the folder it was serving up.

Authentication

If required, enter the username and password for the Channel Server. If this is a Publisher iCOMPEL, you must provide a valid administrator name and password.

Proxy

If required, select a proxy server for accessing the Internet.

Error Retry Interval

Set the time interval for retrying a Channel update if an update is incomplete or interrupted.

File Transfer Allowed

You can set the times during which file transfer is allowed. For example, if Channel updates typically involve large files that may slow down your network, you may choose to allow file transfers at times when other network activity is low.

7.4.2 Updating Subscription

Once the subscriber iCOMPEL is subscribed to a channel, the subscriber will poll the channel automatically at the required interval and you do not need to do anything else.

However, if you wish to manually tell the iCOMPEL to poll the channel for updates, you can visit **Channels**, **Subscribe Channel** and press **Poll Channel Now**.

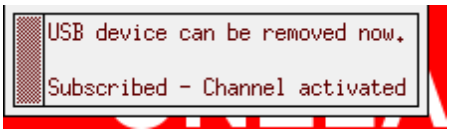
Updating a Subscription via USB Memory Stick

First you need the channel contents to be published 104 to the memory stick you're using.

You will then need to plug it into the iCOMPEL for the channel to be updated.

The iCOMPEL will detect that the memory stick has been inserted and read the channel contents. If the channel has changed since the channel was last read by the iCOMPEL, the iCOMPEL player's contents will be updated.

While the channel update is occurring, a message will appear on the top left corner of the display detailing the status of the subscription. When the subscription is complete, a message will inform you that the USB device can be removed:



USB subscription complete message

7.5 Channel Ad hoc

Using Ad hoc content 79 within a channel is how you can allow users to show custom content on their local iCOMPEL while still showing your channel.

Ad hoc content is created 80 the same way as normal as part of a scheduled layout. Local users can then log into their local subscribing iCOMPEL with an Ad hoc user account 85 and change that content 88.

Ad hoc from Center

Ad hoc from center 83 functionality is similar to regular Ad hoc functionality that allows a user to log into a simplified user interface to change one element of the signage simply. However, instead of a user being able to log into a subscriber iCOMPEL, the changes are made on the publisher and broadcast within the channel to the subscribers.

When configuring the subscribers 106, the update from center polling interval can be set to a higher rate than the regular channel polling rate so that Ad hoc from center updates arrive at the subscribers more quickly.

Part VIII

Player and System Status

8. Player and System Status

The **Status** menu gives you access to information about the player and the system.

Player status 111
System status 112
Conditional Play Status 112
TV & Radio Status 113 (If TV hardware is present)

8.1 Player status

The **Player Status** page provides details about what the iCOMPEL is playing now, and what content has been played recently. These pages automatically refresh as new content is played.

In particular, the data on CPU usage can show which media item (or combination of items) is causing excessive load on the CPU. To determine which media is causing a spike in CPU usage, see the Zone CPU usage graphs to determine which Zones are using the most CPU. It may not be a single item of media that causes a high CPU load, but instead a combination of different items, being displayed at the same time.

An indicator on the Home page shows the average of the total CPU load over the last 60 seconds. Samples are taken every second, and represent an average over the preceding second. If there is an average of 90% or more CPU usage over the last 60 seconds, a warning message is shown on the Home page.

Playing now

The **Playing Now** tab page displays a **CPU usage graph** for each **Zone**. These, along with the **CPU Load** graph can be used to determine which media, or combination of media, is causing a high overall CPU load.

Played recently

The **Played Recently** tab displays a list of recently displayed Layouts, and also recently implemented Advance To commands.

Screen Snapshot

The **Screen Snapshot** page displays a Snapshot of the main Screen display. This can be refreshed periodically as required, although very frequent refreshing is not recommended since it may result in a temporary loss of quality in the currently playing media.

NOTE: If a video is playing, then a dark blue or black rectangle may be shown on the snapshot in place of the video.

CPU Load

The **CPU Load** page shows a graph of processor load. This graph takes about 10 seconds to complete.

Values of 90% and above imply that the processor is heavily loaded and video may not be playing smoothly as a result. You may wish to change the media type, or change the order of items in Zones, to avoid CPU overload.

8.2 System status

The **System Status** page provides information about the iCOMPEL environment. The following information is available on tabbed pages:

- Temperature over the last 24 hours
- Temperature over the last 30 days
- Configuration status
- Hardware configuration

Disk Temperature for the last 24 hours

This graph shows how the disk temperature has changed over the last 24 hours. Red blocks indicate that it has become too hot. Should the disk temperature exceed 50°C for more than 5 minutes, the iCOMPEL will shut itself down.

Disk Temperature for the last 30 Days

This graph shows how the disk temperature has changed over the last 30 days.

Status

Feature	Description
iCOMPEL Uptime	How long this iCOMPEL has been running since last restart
Ethernet Receive	Inbound network traffic and number of errors
Ethernet Transmit	Outbound network traffic and number of errors
System Disk	User inaccessible space used and available

Hardware

Feature	Description
Model	The iCOMPEL model
CPU	Speed and type of the iCOMPEL processor.
Available Memory	The amount of memory installed.
TV Card	The model of TV card installed.
TV Card Features	TV card features available to the iCOMPEL

8.3 Conditional Play status

The Conditional Play Status page gives a summary of all Playlist items or Schedules that have the Conditional Play property set.

The page displays details of the items that have been configured to play conditionally along with the result of Conditional Play condition, based on the current Player Local Information (PLI) values.

If there are items that depend on Player Location Information but those PLI names are missing in a given player, an action message is displayed along with a link to add the missing name.

The rest of the page is split into two tabs, one each for Conditional Playlist items and Conditional Schedules.

Each tab page gives the details of the PLI name on which the item depends, the operation that should be executed to decide if the item plays, the values that the item contains and the current values in PLI.

All the required items are hyperlinked that enable directly jumping to a page of interest and changing desired values.

8.4 TV & Radio Status

For iCOMPEL's that have TV hardware, this page will be present in the status menu and will provide information about how the TV card(s) are being used.

TV Hardware State

The first line "TV Hardware State" currently has three possible values;

Not in use	The TV hardware is not currently being used by anything in the iCOMPEL.
Rebroadcasting	The iCOMPEL is currently using the TV hardware to rebroadcast 141 a TV or radio station. As well as the signal status, the current channel used to rebroadcast is displayed as well as bandwidth information.
In use by movie player	TV hardware is in use. Either to preview/audition TV and radio media or as part of a playing layout. As well as the signal status, the current channel and type (i.e. TV or radio) is shown.

Signal Status

If the hardware is being used, the state of the TV/radio signal is shown as one of "Good", "Acceptable" or "Bad".

8.5 Screen Snapshot

This page displays a 'Snapshot' of main Screen display. This can be refreshed periodically as required, although very frequent refreshing is not recommended since it may result in a temporary loss of quality in the currently playing media.

NOTE: if a video is playing then a dark blue or black rectangle will be shown in place of the video.

Part IX

Setup

9. Setup

The Help menu gives you access to page specific help and this user guide. You can also set User options 115 to match your preferences.

The Setup menu gives you access to settings for the iCOMPEL web interface, the iCOMPEL itself, and the system.

System setup 117

Player setup 134

You should maintain regular backups of the media content files and settings that you use for your iCOMPEL. See Backing up your iCOMPEL 142 for more details.

9.1 Getting connected

Follow these steps to log in to your iCOMPEL:

1. Make sure that the iCOMPEL is connected to your network. You may need to speak to the person responsible for managing your network.
2. Make sure that the iCOMPEL is connected to a power supply, and if it is connected to a Screen make sure that some content is showing. (If the iCOMPEL output is not being displayed, please refer to the troubleshooter 148).
3. Open a web browser (such as Microsoft Internet Explorer or Mozilla Firefox) on a computer that is connected to the network and in the Address bar type in either the IP address of the iCOMPEL or its local Address.
4. In the browser, you are prompted for a username and password. (If you are not prompted for a username and password, please refer to the troubleshooter 148). The factory-set default username is **remote** and factory-set default password is **9999**.
5. If the username and password are correct, then you can now see the iCOMPEL home page in the browser. You are now connected to the iCOMPEL. (If the iCOMPEL home page is not being displayed, please refer to the troubleshooter 148.)
6. Add the current page as a bookmark in your browser for easy access in the future.

Finding the IP address of your iCOMPEL

To find out the IP address of the iCOMPEL, either consult the person who manages your network, or disconnect the iCOMPEL from the power supply for a few seconds and reconnect it. After a few seconds the iCOMPEL displays its IP address on the Screen.

9.2 User options

Use the **User options** page to set a number of user interface options.

Changes to **My Options** apply only to you, while changes to **Shared Options** apply to all users, including Ad hoc users.

Remember to click **Save Changes** if you make any changes to options on this page.

My Options

Each user can set these options for themselves.

User Interface Policy

Select one of the following options:

- **Productive** makes it easier to locate common features by reducing the number of advanced and expert features that are displayed.
- **Detailed** displays both common and advanced features.
- **Expert** displays common show expert features in addition to advanced features. Take care if you use this mode.

Audition Method

Select one of the following options:

- For **On Screen**, the media is shown on the iCOMPEL screen.
- For **Web Preview**, the media is shown on a web page as a screen snapshot. The iCOMPEL creates a screen snapshot by following these steps:
    1. Turning off the Screen off and muting the audio, so that the new media is not displayed to the public.
    2. Running the Audition media command.
    3. Waiting for the media to start playing.
    4. Creating a screen snapshot.
    5. Running the Activate Schedule and Layouts command to restart the current Schedule.
    6. Switching the Screen on and restoring the audio to its original level.

Web Preview is very useful for testing new media on the iCOMPEL when the user is not able to easily view the iCOMPEL screen. Because web Preview turns off the screen and mutes the audio, it is also useful when new media should not been seen before its addition to the Schedule.

One of the Audition ( ) button or the Preview ( ) button is shown whenever auditioning can be used.

Playlist Add item

Defines where new Items are added to a Playlist. The following options are available:

- **At Top** - items are added to the top of a Playlist.
- **At Bottom** - items are added to the bottom of a Playlist.

Screen Thumbnail

Specifies when the Screen Thumbnail should be regenerated. The following options are available:

- Screen thumbnail is updated each time the web page is shown.
- Screen thumbnail is updated every few seconds.

    Setting this option may prevent smooth text scrolling.

Shared Options

These options apply to all Users.

Additional Title

The **Title** will appear on every iCOMPEL Web page and makes it easier to identify the iCOMPEL from others if there is more than one on the network.

Enable the Show Additional Title button, and enter the Title text.

9.3 System setup

You can configure the settings for the following aspects of your iCOMPEL:

Users 117
Date and Time 118
Network 119
TV & Radio 124
HTTP proxy 125
Security 126
Reporting 131
Licensing

9.3.1 Users

The Users page allows you to add user accounts to the iCOMPEL and manage existing accounts.

You cannot delete the account of the currently logged in user.

Settings

User Name

The name used to login with, for example *remote*, or *chef*. This name may only use letters or numbers (such as joe or shift1) and must be unique.

Full Name

A more descriptive name for the user.

Password

The user's password.

Note: Passwords cannot be retrieved by the Administrator. If a user forgets their password, change it to a new one.

Note: We strongly recommend that you change the factory-supplied default passwords, especially if the iCOMPEL is to be accessed over the Internet.

Permissions

Indicates which iCOMPEL functions the user will have access to. Click the appropriate check boxes to grant the permissions:

Ad hoc	Access to data entry Ad hoc Pages 85 (not the Ad hoc content design pages) and permission to read, write and modify files in the Media Folder using the Ad hoc Media Folder 87 web page. If this permission is enabled, then the Media Folder setting should be set to a named directory, and not **All Folders**.
FTP Read Only	Ability to only read files in the Media Folder and all sub-folders via FTP.
FTP Read-Write	Read, write, and delete files in the Media Folder and all sub-folders via FTP.
Status Monitor	Access to Player Status and System Information web pages only.
System Settings	Access to the Setup menu pages and Fonts page
Layout Manager	Access Layout management, Schedule, Ad hoc content design, Newsfeeds, Tables, Colors, and Files & Folders pages.
Layout Editor	Access specific Layouts that the user has been explicitly permission to edit. Permission is granted on the Properties tab of a Layout.
Publish Channel	Allows the user to publish the active channel.
Activate Channel	Allows the user to activate channels.
XML Control	Access to the XML message interface allowing non-browser based control of the iCOMPEL only. (Does not allow access to Web pages.)

Media Folder

The Media Folder is used as the FTP home folder and the Ad hoc media folder.

Users are not able to access any folders above the specified Media Folder when they log in via FTP or through the Ad hoc Media Folder web page.

9.3.2 Date and Time

Use the Date and Time page to specify the iCOMPEL date and time.

The iCOMPEL date and time can be set from either:

- **Network Time Protocol** (**NTP**). This method is preferred since it ensures the iCOMPEL time is always correct, but relies on availability of an external **NTP** server and a network connection.
- **Windows Compatible Network Time Protocol.** This method is required if the NTP server is a Windows server. Windows servers are less accurate time keepers then the Internet time servers and will be rejected unless this option is selected. The Windows Servers do not pass the "peer distance exceeded" test that this option disables.
- **Local System Clock**. This mode relies on the internal clock, and may be used if the iCOMPEL is not able to use NTP. However, the internal clock may drift, leading to an inaccurate date or time.

If the **Network Time Protocol** or **Windows Compatible Network Time Protocol** option is selected, then the status of each configured **NTP** Server is shown on the Status tab.

Note: The **NTP** server will only adjust the iCOMPEL date and time if the **NTP** reported time and the Local System Clock time are within a few minutes of each other. If the difference is more than a few minutes, reboot the iCOMPEL, and it will synchronize fully on boot.

Click the **Save Changes** button to remember any changes.

Note: You must reboot the iCOMPEL when any changes are made, otherwise you may observe problems with media playback.

Settings tab

Time method

Either **Network Time Protocol** or **Local System Clock** as detailed above.

Time Zone

Enter the **Time Zone** for the iCOMPEL location.

Local System Clock Settings

If the time method is **Local System Clock**, select the current clock date and time. The date entry is shown as year - month - day.

Network Time Protocol (NTP) settings

Provide the URLs of up to 3 network time servers.

Status tab

Shows the status of the listed network time servers.

9.3.3 Network

These pages allows the user to configure the available Network options.

9.3.3.1 Network Ethernet

Use the Network page to configure the network settings for the iCOMPEL.

Click the **Save Changes** button to store changes. Note: the iCOMPEL must be rebooted for changes to take effect.

Note: The iCOMPEL displays its active IP address in large green text during the boot up process.

Ethernet tab

Ethernet Type

- **DHCP (Dynamic Host Configuration Protocol).** The iCOMPEL attempts to collect an IP address and other network information from the DHCP server, eliminating the need to manually assign permanent IP addresses. This option requires that there is a DHCP server on your network.
- **Static**. You must manually assign an IP address to this iCOMPEL, and must manually configure other network settings.

Note: The iCOMPEL is set for DHCP by default. If no DHCP server is found, then the iCOMPEL sets itself to IP address 169.254.1.1

Host name set by DHCP

If your DHCP server supports this, then you can modify the DNS host name entry for this iCOMPEL. This enables users to address the iCOMPEL by its name, as well as by its IP address.

IP address

If you are using the Static mode, you must specify an IP address for the iCOMPEL in this entry. If you are using DHCP, this entry is ignored.

The IP address must be unique on your network.

Netmask

The Netmask (also known as a subnet mask) is used to tell how much of an IP address identifies the sub-network the host is on and how much identifies the host.

Typically the Netmask is 255.255.255.0 for a class C IP address.

Default Gateway

The IP address of the gateway (usually a router) on the same sub-network as the iCOMPEL that is used by the iCOMPEL to access Internet web sites, RSS Newsfeeds, Channel Servers, and so on.

DNS Search Path

Provide the search path to the Domain Name Server (DNS), if required.

DNS nameserver 1 / 2 / 3

Provide the IP addresses of up to three DNS name servers.

Ethernet Status tab

The Status tab displays the current Ethernet and DNS settings.

9.3.3.2 Network 3G Modem

Use the Network page to configure the 3G Modem settings for the iCOMPEL.

Click the **Save Changes** button to store changes. Note: the iCOMPEL must be rebooted for changes to take effect.

3G Modem tab

3G Modem Enable

- **Disable 3G network.** 3G modem will not be used.
- **Enable 3G network**. The iCOMPEL will use the 3G modem as its default network connection.

PPP Authentication

If your 3G network requires you to authenticate, provide the Username and Password.

PIN

If your 3G network requires you to set a PIN, provide the PIN.

Access Point Name

If your 3G network requires you to provide an Access Point Name (APN), provide it here.

3G Status tab

The 3G Status tab displays the model of the 3G modem.
The IP address and any DNS search path will be shown if the 3G Modem is connected to the 3G network.

9.3.3.3 Wireless

This tab is for managing how the iCOMPEL connects to wireless networks.

The iCOMPEL will only connect to a wireless network if;

1. Wireless is enabled.
2. The wireless network settings have been defined.
3. The wireless network is in range.

If multiple networks are defined, there is no preference as to which network the iCOMPEL will attempt to connect to.

The current state of the wireless can be seen on the "Network Status" tab, the "Defined Networks" tab will show the state of each network next to the network name.

Tasks

- Enabling or Disabling Wireless 121
- Connecting to a Wireless Network 121
- Change Wireless Network Details 122
- Enabling or Disabling a Wireless Network 122
- Removing a Wireless Network Definition 123
- Connecting to a Specific Wireless Network 123

Enabling or Disabling Wireless

The tab "Enable/Disable" has a radio control for enabling or disabling the wireless interface.

Select either "Disabled" or "Enabled" then press the "Save" button to turn it on or off.

Connecting to a Wireless Network

The tab "Add New Network" is for entering details of wireless networks;

Visible Networks

When the wireless network interface is enabled, a list of visible networks is presented with a radio button next to each of them.

To connect to one of these, simply select the radio button next to the name. If a network password/key is required, enter it in the "Key" field. Since the network is visible, the key type is determined automatically.

Press "Save" to save the new network details.

Other Networks

If the network is not visible or in range, then select "Other" and type in the SSID of the wireless network into the adjacent text field. The "Key Type" field will need to be set so that any password/key can be used properly.

As with the visible networks, the "Key" field will require filling in if required.

Press "Save" to save the new network details.

IP/DNS Settings

For both visible and other wireless networks, there is a choice of using either DHCP or static IP settings. These fields are set in the same manner as the Ethernet 119 page.

If wireless is enabled and not currently connected to any wireless network and the newly defined network is in range, then the iCOMPEL will attempt to connect to the network.

Editing wireless network details

The "Defined Networks" tab contains a list of defined wireless networks, the "Edit" button next to each network name will show a form for changing the network details. Press "Save Changes" to update the details.

Disabling or Enabling a wireless network

The "Defined Networks" tab has a button next to each network name - either "Disable" or "Enable" depending on whether the network is enabled or disabled. Pressing this button will enable or disable the network as appropriate. The wireless interface will not attempt to connect to this network if it is disabled.

Removing a wireless network

The button next to each network name on the "Defined Networks" will delete that wireless network definition when clicked. You will be prompted for confirmation first.

If the iCOMPEL is currently connected to that network, then the connection to it will be lost.

Connecting to a specific wireless network

The "Connect" button next to each network definition on the "Defined Networks" tab will force the iCOMPEL to attempt to connect to that network if wireless is enabled.

Any existing wireless network connection will be stopped.

This will not be permanent - if the iCOMPEL is restarted or the wireless network connection is lost, the iCOMPEL may connect to a different defined network.

9.3.3.4 Network Interface Order

Currently the iCOMPEL supports three network interfaces:

- Wireless 121
- 3G Modem 120
- Ethernet 119

This page allows the user to specify the order in which the interfaces are tried. If an interface cannot be used (e.g. Wireless cannot find any Access Points in range) then the next preferred interface will be tried.

To set the order, use the arrow buttons to move the interface up and down in the list. The item at the top of the list is tried first, the next one down second and so on.

9.3.3.5 Network Tests

Tests tab

The Tests tab allows you to carry out connectivity tests from your iCOMPEL to your network.

These include:

- Ping test
- Trace route test
- DNS lookup test

9.3.4 TV & Radio

These pages allow the user to configure the available TV and Radio stations.

9.3.4.1 Analog TV and Radio

Analog TV

This tab lists the available analog TV channels and allows you to select the channel frequency and edit the description field.

Click the **Save Changes** button to preserve any changes to the **Channel frequency** or **Description** fields

To remove a channel, delete the text in its description field, and press the **Save Changes** button.

Each channel can be shown on the main Screen by pressing the Audition button .

Note: When you audition a Station, the main Screen stops showing the Scheduled Layout..

Channel

The channel number to receive.

Description

A short channel description, for example ITV, BBC One. Delete the text in this entry to remove the channel.

9.3.4.2 Digital TV and Radio

Digital TV and Radio

The **Scan for Digital TV Channels** button on the Settings tab starts an automatic scan for new Digital TV Stations. The automatic tuning process takes between 2 and 20 minutes, during which time the progress is shown on Screen and in the web page.

Once the tuning has completed, click the **Use New Channels** button to store the channel list or click the **Do not Use New Channels** button to revert to the original channel list.

Note: While scanning for new digital channels, the main Screen stops showing the Scheduled Layout and instead shows tuning progress information.

A list of all tuned digital TV and radio Stations is shown the Status tab. To Audition a TV or Radio station, press Audition ( ).

Note: When you audition a Station, the main Screen stops showing the Scheduled Layout.

Status

The Status tab lists all the Digital TV and Radio channels found by the iCOMPEL.

Settings

The Settings tab shows the **Scan for Digital TV Channels** button, and after a scan shows the **Use New Channels** and the **Do not Use New Channels** buttons. It also shows a progress bar while the scan is taking place.

9.3.4.3 Using multicast streaming TV

It is not always physically possible for an iCOMPEL to receive a TV broadcast signal directly. An alternative is to deliver TV signals as a set of Multicast streams using the local network.

Note: Using Multicast TV requires an additional feature unlock key.

How Streaming Works

A Streaming Transmit Servers converts analog or digital TV signals to Multicast IP packets. The iCOMPEL is able to receive and decode an IP multicast stream (it can function as a streaming Client), and can place the TV image into a Zone on the iCOMPEL's output along with other information in other Zones.

All the routers and switches on the local network between the Streaming Transmit Server and each Streaming Client iCOMPEL must support Multicast streaming. The network itself must also have sufficient capacity to allow Multicast streaming.

Note: There may be copyright issues involved in re-broadcasting material onto a local network.

Streaming TV and Radio

Use this page to modify and view streaming TV settings.

The **Settings** tab allows you to add, remove and modify the multicast addresses used to receive the TV streams. The **Status** tab shows the current channels, and allows channel Preview. Up to six multicast address can be specified.

Note: Using Multicast TV requires an additional feature unlock key.

Announcement Multicast Addresses

Specifies the address to receive Service Advertising Protocol (SAP) packets on. Valid addresses are between 224.0.0.0 and 239.255.255.255.

Tests

This page allows you to test the TV card features.

Properties

This page allows you to configure the TV system in use.

Click the **Save Changes and Restart the iCOMPEL** button to apply changes.

Note: When you save changes, the iCOMPEL restarts to apply them.

TV System

Select the country to configure the iCOMPEL to support the Analog and Digital Terrestrial television system of that country.

9.3.5 HTTP proxy

Use the HTTP Proxy page to configure the details of proxy servers used to access Internet resources. Please discuss the need to use a proxy with your Network Administrator.

To use a proxy for accessing an Internet Resource, you must perform both of the following actions:

- Enter HTTP Proxy configuration details using the HTTP Proxy settings page.
- Request the iCOMPEL use a proxy configuration when accessing an Internet resource.

When creating an HTTP Proxy configuration, you must specify how the Proxy configuration is used. The following options are available:

- Accessing external Web Pages using the HTML Player

- Channel Subscription downloads channel content from a Publisher iCOMPEL
- Newsfeed when downloading Newsfeed articles.

Once a HTTP Proxy has been created, you may enable usage of a proxy, as follows:

- For the HTML Player, enable proxy usage in the Player Setup page.
- For a Channel Subscription proxy, enable usage in the Channel Setup page.
- For a Newsfeed proxy, enable usage on an individual Newsfeed basis from the Newsfeed page.
- For a Reporting proxy, enable usage in the Reporting Setup page.
- For a Software Update proxy, enable usage in the Software Update Setup page.

The proxy configuration is stored on this iCOMPEL, and is not transferred in a Channel.

Note: Newsfeeds and Channel Subscription do not support use of Microsoft NTLM authentication. We recommend changing the Windows proxy to allow Digest authentication.

Note: You must restart the iCOMPEL when you make any changes to the HTTP Proxies.

Settings

Server Address

The address of the proxy server.

Server Port

The port to connect to on the proxy server. By default, this is 3128.

Username

If the proxy server requires authentication then enter the username.

Password

If the proxy server requires authentication then enter the password.

Use this Proxy for

Indicates the resources for which the proxy may be used.

9.3.6 Security

Use the **Security** page to set various security related details to minimize the risk of unauthorized access to the iCOMPEL. The following settings can be controlled:

Firewall

Firewall Service Settings

The iCOMPEL firewall can be used to prevent anyone from attacking the iCOMPEL from an unknown computer. If their IP address does not match one of up to eight IP addresses or address ranges, then access is denied.

Tick the "Restrict access to the Allowed IP Addresses only" box to enable the iCOMPEL Firewall IP address filtering.

Enter up to eight IP addresses of the computers that are allowed access to the iCOMPEL in the "Allowed IP Addresses:" boxes. If you need to provide access to more than eight IP addresses, then it is possible to specify a range of them as shown in the following examples:

- To allow all IP addresses between 192.168.1.0 and 192.168.1.255, type: 192.168.1.0/24

- To allow all IP addresses between 192.168.0.0 and 192.168.255.255, type: 192.168.0.0/16

  WARNING: If you do not enter your own IP address, then you are locked out of the iCOMPEL when the firewall takes effect after a reboot. The iCOMPEL will, however, warn you if your IP address is missing from the list.

FTP Service settings

FTP access to the iCOMPEL allows someone to download the content from the iCOMPEL or to upload content that might be inappropriate. With a working knowledge of the XML interface, they could also alter the Playlists and other settings. FTP is not a very secure connection since the passwords are sent unencrypted. The advantage of having the FTP service, however, is that it allows legitimate users to upload multiple content files more quickly than is possible via the HTTP service.

You may wish to change the FTP port to different port number either to make it more difficult for an attack to succeed, or to use port redirecting or to comply with corporate security policy. It may also be desirable to have an alternate port available.

The Enable FTP checkbox enables or disables the FTP service.

The FTP Ports entry allows you to specify up to two different ports to accept FTP connections on. The default FTP port is 21.

Once an FTP connection has been made, the two machines make a second connection to each other on a different port known as the passive port. Some corporate firewalls require that the passive port number fall within a certain range. Some may require a different passive port number for every iCOMPEL. If this is the case then you must set the range of passive port numbers in accordance with the corporate firewall.

The Passive Port Range allows an upper and lower port limit to be specified.

It is possible to restrict the rate at which files are transferred to the iCOMPEL via FTP. While this is not a security issue, it is important to prevent files from being transferred to the iCOMPEL at such a high rate that the video player starts to stammer.

As a rule of thumb:

- If people are likely to be watching the Screen while large files are being transferred to the iCOMPEL, then restrict the transfer rate to 2500.
- If large files are only transferred when no one is watching the screen, then the transfer rate can be much higher, say 10000.

HTTP Service settings

This tab page allows you to select which protocols (HTTP or HTTPS) are allowed to access the iCOMPEL Web user interface. It is not possible to manage the player without either HTTP or HTTPS.

HTTP is more secure than FTP since the passwords are encrypted. HTTPS is a more secure form of HTTP because everything is encrypted.

HTTP and HTTPS access is restricted by managing the user account names and passwords. See the User Account Settings 117 page for more information.

Select either HTTP only, HTTPS only or HTTP and HTTPS from the Supported Protocols drop down menu.

The standard port for HTTP access is port 80 and the standard port for HTTPS access is port 443.

You may wish to change these to different port numbers either to make it more difficult for an attack to succeed, to use port redirecting or to comply with corporate security policy. It may also be desirable to have one or more alternate ports available.

SSH Service settings

An SSH connection to the iCOMPEL allows access to the deeper levels of the device. Most users never need SSH, but it is occasionally essential for support and maintenance purposes so it cannot be disabled. SSH access is restricted by managing the master iCOMPEL password below.

It is desirable to change the SSH port to a different number to make it more difficult for an attack to succeed. It may also be desirable to have an alternate port available.

The standard port for SSH access is 22. You can specify a maximum of two ports to accept SSH connections.

WARNING: If you change the SSH port number, then you should make a note of it and keep it safe.

Master password

The Master iCOMPEL password is required for SSH access to the deeper levels of the iCOMPEL. This is not the same password used to access the web pages of the iCOMPEL. It may be desirable to change this password, but you must know the existing password to do so.

LDAP

See LDAP settings 128

LDAP Expert

*This option is only visible if you have set the **User Interface Policy** to **Expert** on the **UI Options** 115 page.*

Expert users may use these fields to enter LDAP XML Settings and Passwords.

Firewall Status

See Firewall status 128

LDAP Tests

See LDAP Tests 131

9.3.6.1 Firewall status

This page shows information about the firewall on the iCOMPEL.

Understanding this information requires a good working knowledge of IP networking and network security.

The Chain PLAYER-INPUT section details the rules governing connections made to the iCOMPEL on various protocols.

The IP address from which a connection is made is checked against the Chain PLAYER-INPUT-ADDRESSES rule set.

Any connections made from an IP address that is not allowed by the security settings are dropped.

All connections from allowed addresses are passed through to the Chain PLAYER-INPUT-PORTS rule set.

The IP port to which a connection is made is checked against the Chain PLAYER-INPUT-PORTS rule set.

Any connections made to a port that is not allowed by the security settings are dropped.

The Pkts (Packets) and Bytes columns shows the volume of traffic that is accepted or rejected by each rule.

An unusually high number of Pkts on a "DROP" line indicate a possible attack on the iCOMPEL.

9.3.6.2 LDAP settings

The iCOMPEL's (iCOMPEL) security model allows users that have been authenticated to use features of the iCOMPEL according to assigned permissions.

In LDAP the iCOMPEL considers a user to have permission if an LDAP filter matches entries in the directory.

Typically a LDAP filter will check that a user is a member of a group.

Configuration

The Enable LDAP checkbox allows must be enabled for the iCOMPEL to use LDAP.

You must enter the Primary LDAP server hostname and port and choose the Server Encryption'.

The Server Encryption can be one of:

- None (LDAP) - no encryption - passwords are sent in the clear - standard LDAP port is 389.
- SSL (LDAPS) - all communications with the LDAP server are encrypted - standard LDAP port is 636.
- TLS (LDAP over TLS) - all communications with the LDAP server are encrypted - standard LDAP port is 389.

The CA Certificate (Certification authority Certificate) is required when SSL or TLS encryption is used. The certificate is required to be in PEM format.

Note: Microsoft Active Directory does not support LDAP over TLS and by default LDAPS requires additional configuration of the Active Directory server.

Fallback user

The Fallback User can always login to the iCOMPEL and perform management tasks, even when LDAP authentication is not working.

Enter the Fallback User Username and Password that you wish to use to manage the iCOMPEL in the event of problems with the LDAP setup.

Recommendation: Use a very strong password for the Fallback User password.

Bind

Select Allow Anonymous Bind to use anonymous binding to the LDAP server. Otherwise select Bind using DN: and fill in the Bind Username and Bind Password'.

For example the Bind Username is a Distinguished Name (DN) like: cn=Manager,dc=yourdomain,dc=com.

FTP User

The information in this section is used to authenticate users and give them permission to gain FTP Read/Write access to the iCOMPEL.

You will need to know how to find the user object in the directory that corresponds to the username given to FTP.

Set the Login Username Attribute to attribute that will contain the username given to FTP.

Active Directory Note: Typically this is the "sAMAccountName" attribute.

Posix Scheme Directory Note: Typically this is the "uid" attribute.

Enter the LDAP filter that will match a user object in the directory into the User Filter field. Use "%s" where you wish the filter to contain the username of the user that is logging in.

Recommendation: If possible add checks for group membership to control which users can access FTP on the iCOMPEL.

Active Directory Example: (&(sAMAccountName=%s)(objectclass=user)(memberOf=CN=iCOMPEL ftp access, OU=Security Groups,DC=yourdomain,DC=com)).

Posix Scheme Directory example: (&(uid=%s)(objectclass=posixAccount))

The Scope can be set to One Level or Subtree and will limit how LDAP search for the user object starting from the Base DN.

HTTP User

The information in this section is used to authenticate users to use the Web Interface of the iCOMPEL. Permissions are setup in the next section.

You will need to know how to find the user object in the directory that corresponds to the username given to HTTP.

Set the Login Username Attribute to attribute that will contain the username given to HTTP.

Active Directory Note: Typically this is the "sAMAccountName" attribute.

Posix Scheme Directory Note: Typically this is the "uid" attribute.

Enter the LDAP filter that will match a user object in the directory into the User Filter field. Use "%s" where ever you wish the filter to contain the username of the user that is logging in.

Active Directory Example: (objectclass=user).

Posix Scheme Directory example: (objectclass=posixAccount)

The Scope can be set to One Level or Subtree and will limit how LDAP search for the user object starting from the Base DN'.

The Display Name Attribute is used in the iCOMPEL banner as the User:'.

Active Directory Note: Typically this is the "displayName" or "sAMAccountName" attribute.

Posix Scheme Directory Note: Typically this is the "cn" or "uid" attribute.

HTTP Permissions

After a user has been authenticated to access the iCOMPEL web interface via HTTP, the iCOMPEL will check the permissions that the user has.

There are four permissions that will need setting up:

Monitor Access	Access to Player Status and System Information web pages only.
System Settings	Access to the Setup menu pages and Fonts page.
Layout Manager Access	Access Layout management, Schedule, Ad hoc content design, Newsfeeds, Tables, Colors, and Files & Folders pages.
XML Control Access	Access to the XML message interface allowing non-browser based control of the iCOMPEL only. No Web pages can be accessed with this permission setting.

Set Monitor Access Filter, System Settings Filter, Layout Manager Filter and XML Control Filter to LDAP filters that match if the user has been granted the corresponding permission. Use "%s" everywhere you wish the users username to be written into the filter.

Typically the filter checks that the user is a member of a group.

Active Directory Example: Set the Filter Attribute: to dn and use this filter:

(&(objectClass=group)(member=%s)(distinguishedName=CN=player monitor,OU=Security Groups,DC=yourdomain, DC=uk))

Posix Scheme Directory Example: Set the Filter Attribute: to uid and use this filter:

(&(objectClass=posixGroup)(memberUid=%s)(cn=monitor))

The 'Scope' can be set to 'One Level' or 'Subtree' and will limit how LDAP search for the user object starting from the 'Base DN'.

Ad hoc users

Click the button to add an Ad hoc user and to set the filters for them as required.

9.3.6.3 LDAP tests

The LDAP tests will test the current LDAP settings and give you feedback on any issues.

Recommendation: Always test any change to the LDAP settings before rebooting the iCOMPEL.

Running the tests

To run a test enter the Test Username to use in the tests and click the Test LDAP settings button.

Test results

The test results are displayed in two parts: a table showing the status of each step and a detailed log.

When everything is setup correctly and a valid iCOMPEL username is used, the status will show as Passed. The permissions that the user has are also shown.

Check that the permissions are what is expected and change the LDAP setting if necessary to fix the problem.

The following table shows which of the LDAP settings need checking when a problem occurs. Also check the Log Messages for details on the problems.

Test	Checks
Bind to LDAP server	Configuration and Bind sections
Search for FTP user	FTP User section
FTP Read/Write Access	FTP User section User Filter
Search for HTTP user	HTTP User section
Find HTTP user	HTTP User section
Search for group membership	HTTP Permissions section
Ad hoc Permissions	Ad hoc Users section

9.3.7 Reporting & Remote Setup

This page allows you to configure how the iCOMPEL reports status information to a iDigitalManager.

Reports can be sent using the HTTP protocol or over a VPN connection to the iDigitalManager.

When a VPN is used, the iDigitalManager is able to control the iCOMPEL Web Interface and optionally can SSH to the iCOMPEL.

If the iCOMPEL is reporting using HTTPS or over a VPN connection it can be configured to report its setup files to the iDigitalManager and to accept updated setup files from it.

NOTE Some features may depend on installed feature keys.

Click the **Save Changes** button after making changes.

The **Status** tab shows the reporting status.

Reporting Settings

Reporting

Selects if the iCOMPEL should send status information to a iDigitalManager.

Reporting Options

Indicates what information a iCOMPEL should send to a iDigitalManager. The following option is available:

Include a Screen Thumbnail with each report. When checked, this option will send a screen thumbnail with the status. Checking this option will increase the bandwidth required for each status report.

Media Auditing

Indicates that the iCOMPEL media audit information should be sent to a iDigitalManager. The following options are available:

"Do not send media audit logs to the iDigitalManager" - do not send any media audit information.

"Send media audit logs every" - send the media audit information periodically. For example every hour.

"Send media audit logs every day at" - send the media audit information once a day at a particular time. For example 02:00 every day.

Reporting Interval

Specifies how frequently the iCOMPEL should send status information. The minimum interval is 5 seconds.

Report to iDigitalManager via HTTP

Specifies the protocol, network address and optionally port of the iDigitalManager to send status information to.

Report to iDigitalManager via a VPN

Specifies the network address and optionally port of the iDigitalManager VPN to send status information to.

When the "Allow SSH access via VPN" option is the checked the iDigitalManager is allowed to SSH to the iCOMPEL.

Authentication

Enter the username and password of a iDigitalManager user. The iDigitalManager user must have the Accept Report user permission enabled.

Proxy

Enable proxy access if the Web site should be accessed through a proxy server.

Note: To access the iDigitalManager through a proxy, you must first create a Reporting Proxy entry (using the HTTP Proxy page 125).

Remote Setup Settings

If the iCOMPEL is reporting using HTTPS it can be configured to report its setup files and receive updates to them from the iDigitalManager.

If the iCOMPEL is reporting over a VPN connection it can also **donate** its setup files to the iDigitalManager which will provide them as updates to every iCOMPEL that has been configured (on the iDigitalManager) to receive them.

Categories

Select the Categories for which the iCOMPEL will report, donate and accept updates for.

Note: The **Channel** category is not available for Remote Setup when the iCOMPEL is configured as a Publisher 98.

The iDigitalManager help pages contain a guide on how to configure and use Remote Setup in more detail as this feature can be managed from it.

9.3.8 Feature Keys

Certain features beyond the normal capabilities of the iCOMPEL are licensed. This page allows you to view currently installed feature keys and to add new feature keys.

The **Licensing** tab shows a summary of all installed feature keys, while the **Status** tab shows all currently licensed features.

The **Add License** tab allows you to add new feature keys.

NOTE: The iCOMPEL must be rebooted for newly installed features to become available.

9.3.9 Compact flash

Note: Compact Flash is only available on certain models of iCOMPEL

Before a new Compact Flash part can be used by the iCOMPEL, it must be formatted by the iCOMPEL.

1. Unplug the iCOMPEL from the power.
2. Plug in the Compact Flash.
3. Plug in the iCOMPEL to the power.
4. From the **Format** tab, choose **Format the Data Compact Flash when the iCOMPEL is next rebooted** if the Compact Flash has not already been formatted. Reboot the iCOMPEL to complete the formatting of the Compact Flash.

You can use also the **Format the Data Compact Flash** command if you wish to reformat an already formatted Compact Flash.

9.3.10 Player Local Information

Overview

This page allows meta-data to be added, deleted or modified. This meta-data is contained in Player Local Information items which are used by the following features:

- Conditional Play: the meta-data can be used to control which Playlist items or Schedules play.
- Reporting: All player meta-data are reported to the iDigitalManager when iDigitalManager reporting is enabled.
- Localize HTML pages: Web pages can query the meta-data to localize their output.
- Configure Digital Signage Weather Widget: The current location can be specified for the Digital Signage Weather Widget.

Potential uses for Player Local Information

The list below illustrates how Player Local Information may be used:

- The content designer can design content for a Channel and yet make each iCOMPEL/s play specific content. For example, if a company has branches in different locations, the company can create a ' weather_location' in ISO format and use Digital Signage Widgets to display location specific weather.
- Conditional Play can be used to control the media and schedule for individual iCOMPELs with a single Channel. For example, a chain store could create content for all stores, publish to a single site, have all subscribers download the content and yet play content in each store based on customer profiles visiting particular stores (using Conditional Play for Playlist items), and/or the opening hours of that store (using Conditional Play for one or more Schedules).
- Player Local Information is also reported to iDigitalManager and can be used for effective asset tracking. For example, each player can store its address, asset tracking id and if there is a problem, it is easy to determine the location of the player based on iDigitalManager reports.

NOTE: Any change in Player Location Information can have an immediate effect on the currently playing item.

9.4 Player setup

You can configure the settings for the following aspects of your iCOMPEL:

Audio 134
Screen 135
Players 136
RS-232 Outputs 137
Interactivity 139
International 142

9.4.1 Audio

This page is for setting and testing input and output audio levels and determining the Audio mute status.

The **Master Volume** level adjusts the overall output volume of the iCOMPEL. The Input Level adjusts the level of the equipment connected to the input source.

The **Status** page indicates if the currently active Schedule has muted or unmuted (enabled) audio.

The **Test** button on the **Test** page will send a variety of audio test signals.

Note: Running the test program will stop the currently playing media.

Settings

Master Volume

Sets the master output volume and is expressed as a percentage of maximum (100%) output level.

Note: The media item volume setting is specified in terms of percentages of the master volume level. That is, a media item volume setting of 100% will output at the level specified in the master output volume.

Input Level

Adjusts the input level and is expressed as a percentage, where 100% implies no reduction in input audio level.

9.4.2 Screen

These pages are for setting and testing the Screen resolution and orientation and obtaining Screen information (if available).

The **Status** page displays a summary of the **Display Data Channel** (DDC) information obtained from the screen, and the currently Active output (either VGA or S-Video).

The **Test** page provides access to various test images.

Note: Changing the orientation or resolution will require a restart of the iCOMPEL.

Screen Resolutions and Timings

Some resolutions are defined in the VESA standards and can be used with almost any screen. These include 640x480, 800x600, 1024x768 and 1280x1024.

There a number of resolutions in use that have not been defined in any standard. There include the wide screen modes 1280x768 and 1360x768.

To correctly output to a screen in one of these modes requires the iCOMPEL to have detailed timing information about the resolution.

Each model of screen often uses its own unique timing values.

Because the timing values are often unique to a screen, it is not possible to setup the iCOMPEL on one model screen and expect the output to work on another model of screen.

Unlike desktop PCs, the iCOMPEL will not automatically update to match the screen that is plugged into it. You must always repeat the screen setup each time the screen model is changed.

The iCOMPEL works in this way to allow VGA-over-CAT5 and other common installations to work.

Settings

Output

Note: This feature requires specific iCOMPEL hardware support and this option will not be displayed if the hardware is not detected.

Choose which output connector the iCOMPEL will use.

- VGA
- DVI

Orientation

Note: This feature requires specific iCOMPEL hardware support and this option will not be display if the hardware is not detected.

The orientation determines picture orientation on the Screen. The following settings are available:

- Landscape. This is the default display and will apply to most screens. It corresponds to 0 degrees of rotation.
- Portrait - left edge at top. This setting corresponds to 90 degrees of rotation.
- Portrait - right edge at top. This setting corresponds to 270 degrees of rotation.

Resolution

This is a list of the available screen resolutions.

The **Defined By** column indicates whether the mode has been provided by a specific Screen (using DDC) or is a **Built In** resolution.

VESA CVT Resolutions

This option allows any reasonable screen resolution to be configured.

Screens will often only report their maximum resolution as Built In but may support other resolutions. For example, a 1440x900 screen may support 1280x768 or a 1920x1080 screen may support 1360x768.

Always use Normal Blanking for CRT screens. Try Reduced Blanking for Flat screen displays.

Custom Resolution

This allows you to provide custom timing information, and is for advanced users only.

9.4.3 Players

This page allows you to adjust the settings for the various iCOMPEL player types.

This page is split into the following tabs:

- **HTML Player**. Allows configuration of HTML player settings, including Proxy use and memory limit.
- **Movie Player**. Configures de-interlacing settings.
- **Presentation Player**. Allows configuration of Presentation player and memory limit.

Click the Save Player Settings button to apply changes.

Note: When any player settings are saved, the iCOMPEL restarts to apply the changes.

HTML Player

HTTP Proxy

Specifies whether an HTTP Proxy is used to access external Web Pages resources.

If certain Web Pages are not accessed through the proxy, then enter the address of the server or servers hosting these pages in the No Proxy For entry.

Note: If this option is enabled, an HTTP Proxy must also be created on the HTTP Proxy page.

Memory Limit

Defines the maximum memory that the HTML Player should use. By default, this is 440MiB.

It may be useful to restrict the HTML Player memory limit if there is complex Java code, or Flash animation in pages to be shown.

Trust Local Flash

Choose **Allow disk based flash to read local data and communicate with internet** if your Flash content requires cross-domain access to data or needs to read local files.

Choose **Restrict disk based flash from reading local data and accessing cross-domain urls** otherwise.

XML Web Services External URL Access

The XML Web Services has a feature that allows arbitrary access to External URLs.

Choose **Allow XML web services to access external sites** to allow the HTML Player to access external sites.

Choose **Do not allow XML web services to access external sites** otherwise.

Movie Player

De-interlacing

If you experience quality issues with video images, changing the de-interlacing settings may help.

Try first with de-interlacing disabled, then with de-interlacing enabled. Use the setting that gives the best quality image.

When de-interlacing is enabled, additional processing power is used.

If the video display becomes jerky and the CPU load, as shown on the support page, is high, then try turning de-interlacing off.

Presentation Player

Number of players

Specifies the number of Presentation players

Memory Limit

Defines the maximum memory that the Presentation Player should use. By default, this is 300MiB.

9.4.4 RS-232 Outputs

The RS-232 interface can be used to send RS-232 Strings from the iCOMPEL to RS-232 enabled devices, and to set the voltage on various RS-232 control outputs.

A RS-232 Item collects defines one or more of the following properties:

- The voltage level for the two RS-232 output lines
- Transmit the specified RS-232 String using the specified RS-232 Configuration
- When this Item is to be Executed

This Page is split into three tabs:

- Items shows all RS-232 Items, and provides access to test, modification and deletion actions. The Update button will store changes.
- Add RS-232 Item will add a new RS-232 Item.
- Configuration provides access to RS-232 Configuration options, including baud rate, data bits, stop bits, and parity. This configuration information should match the settings of any connected RS-232 equipment. Save Configuration button will store changes.

RS-232 Items can be executed when encountered in a Playlist or can be automatically executed in one of the following conditions:

- Screen is muted or unmuted
- Audio is muted or unmuted
- A specified Layout starts or completes

The condition is specified when the Item is created and can not be changed. NOTE: only one RS-232 Item can be created for each of the above conditions.

Press **Edit** to modify the Item properties and to view which Playlists refer to this Item.

Unused Items can be Deleted by using the button.

RS-232 Items are published as part of a Channel. If the iCOMPEL is a Channel Publisher or Subscriber, then you can locally override both the Channel Configuration and / or the String for any Channel RS-232 Items

The Update button will set the specified properties.

The Last Response section details the response received the last time this Item was executed. Press the Execute RS-232 String button to execute the RS-232 Item immediately and display any response String.

RS-232 Item

Name

A name which uniquely identifies this RS-232 Item.

Send RS-232 String Action and RS-232 String

Check Send RS-232 String Action to send the specified RS-232 String. Clearing this setting will result in no RS-232 String being sent - although all other enabled Actions is executed.

The RS-232 String is expressed in hexadecimal format. For example: 9F 80 60 3F 00 BE

DTR (Data Terminal Read) / RTS (Ready To Send) Action

If enabled then sets the specified RS-232 Output line to the specified voltage level. If cleared, then the specified RS-232 Output line is unchanged.

Use Local Override

If enabled, then this will send the specified Local Override RS-232 String, rather then the default RS-232 String.

The Local Override entry can be left blank to specify that no RS-232 String is to be sent.

Note: This section is only shown if Send RS-232 String is enabled, and the iCOMPEL is either a Channel Subscriber or a Channel Publisher.

Add RS-232 Item

Name

A name which uniquely identifies this RS-232 Item. The Name must be specified and must be unique.

Perform Enabled Actions

Specifies if the RS-232 Item should be executed when encountered in a Playlist or automatically when the specified Schedule condition is met.

Note: With the exception of **Add to Playlist**, only one RS-232 Item can be created for each of the above conditions.

Send RS-232 String Action and RS-232 String

Check Send RS-232 String Action to send the specified RS-232 String. Clearing this setting will result in no RS-232 String being sent.

The RS-232 String is expressed in hexadecimal format. For example: 9F 80 60 3F 00 BE

DTR (Data Terminal Read) / RTS (Ready To Send) Action

If enabled then sets the specified RS-232 Output line to the specified voltage level. If cleared, then the specified RS-232 Output line is unchanged.

Configuration

Bits per Second

Select the Baud rate in bit per second from the drop down list. The iCOMPEL currently supports rates between 110 and 460800.

Data Bits

The number of data bits to use. Select from either 7 or 8.

Stop Bits

The number of stop bits to use. Select from either 1 or 2.

Parity

The number of stop bits to use. Select from Odd or Even.

Use Local Override

If enabled, then this will use the specified Local Override settings rather then the default Channel settings.

Note: This section is only shown if the iCOMPEL is either a Channel Subscriber or a Channel Publisher.

9.4.5 Interactivity

The iCOMPEL can programmed to respond to inputs from:

- USB Touch Screens
- RS-232 modem control inputs
- Remote Keypad Buttons

This page allows these inputs to be enabled and configured.

NOTE Some features may depend on installed feature keys.

Touch

Status

The Status field indicates the current state of the Touch system. It can indicate that:

- No Touch Screen is connected
- Touch Screen is connected, but is not Calibrated
- Touch Screen is available

The Touch Screen is only usable when the latter Status is displayed.

Touch Screen Calibration

Once a Touch Screen is connected, it needs to be calibrated before use.

To calibrate a screen, the follow these steps:

1. Click Perform Touch Calibration on the Web Page.
2. Move to the Touch Screen.

3. Carefully press in the center of each of the 3 crosshairs as they appear in turn.
4. Press on the colored region which then appears in the center of the screen.
5. Return to the browser.
6. Adjust the Drag Threshold (see below) as appropriate.

It is possible to cancel the calibration process by clicking Cancel Touch Calibration on the Calibrating Touch Screen web page. The calibration process is canceled after 60 seconds of inactivity, or if a Layout is Activated, or any item is Auditioned.

If the calibration process is not successfully completed, then the iCOMPEL will revert to either a previously successful calibration setting or to an uncalibrated state.

Name

The Name field will appear when a Touch Screen is connected and Calibrated.

Drag Threshold

When a Touch Screen is Pressed and Released the screen coordinates of the 2 events are slightly different. The Drag Threshold is the minimum number of screen pixels difference between the Press and the Release for the Action to be considered a Press-Drag-Release, rather than a Press-Release. This is particularly useful when passing the Touch events to a displayed web page, where typically a Press-Release is required.

The first time calibration is performed the difference between the press and release events for the 3 calibration crosshairs are used to estimate a drag threshold. It may be necessary to adjust this value based on the media to be displayed and the intended users.

RS-232 Inputs

The iCOMPEL can respond to voltage changes on the following RS-232 Inputs:

- Clear To Send (CTS)
- Data Carrier Detect (DCD)
- Data Set Ready (DSR)
- Ring Indicator (RI)

Click on Edit to view and edit the properties for a particular RS-232 Input.

The editable properties are:

- Enabled Indicates the availability of the Input for use on the iCOMPEL
- Name The name to use for this Input when referencing it else where in the iCOMPEL

In addition, there are 2 informational properties:

- Current Level Indicates the current state of the Input (Positive or Negative Voltage)
- Used By Indicates which Zones in which Layouts on the iCOMPEL use this particular Input

Remote Keypad Buttons

The iCOMPEL can respond to button presses on a infra-red controller or "Remote Keypad". The supported Remote Keypad provides the following buttons:

- Volume Up & Down
- Station Up & Down
- 4 Programmable Buttons: A, B, C, D

Volume Up & Down

The Volume Up & Down buttons adjust the Master Volume level 134 up and down in 10% divisions.

(0%, 10%, 20%,... 80%, 90% & 100%)

A message should appear in the top right of the screen to indicate the new volume.

Station Up & Down

The Station Up & Down buttons apply to any actively playing Ad hoc TV & Radio Stations 80. The Station Up & Down buttons transform the Ad hoc item as if an Ad hoc User had selected the next station up or down (respectively) in that Ad hoc Item's list of available stations. A message should appear in the top right of the screen to indicate the new stations being changed to or to indicate that no Ad hoc TV or Radio Stations are playing.

Programmable Buttons

The four Programmable Buttons (A, B, C, D) can be used to provide Interactivity 70 to Layouts and Playlists. A message should appear in the top right of the screen if the button has no programmed Interactivity at that moment in time.

Status

The Remote Keypad Tab contains a status message indicating if the supported infra-red receiver is connected or not. The receiver must be connected for the Remote Keypad Buttons to function.

9.4.6 TV Rebroadcaster

This page allows you to configure the Digital TV Rebroadcaster.

The digital TV Rebroadcaster receives Digital TV & Radio stations, and retransmits them as Streaming TV and Radio stations. You must tune stations using the Digital TV & Radio page first. You can then retransmit any station from the list as a multicast Streaming station.

Status

Normal status

The streaming station is the TV or Radio station being rebroadcast. This name matches the name on the Digital TV & Radio page, while the name visible in streaming announcements is indicated by the announced as field.

Destination is the URL this stream is being rebroadcast to, for entering into PC clients, or to iCOMPEL players where you have chosen not to use the announcement feature.

The Multicast TTL is the "distance" the multicast stream propagates through multicast-capable routers. It should be at least 1, to indicate that the stream will make it onto the Ethernet, and should be increased by one for each multicast router the stream should pass through. Consult your network administrator for more information.

The streaming announcements address is the address that the iCOMPEL sends SAP announcements to. If this address is entered in another iCOMPEL player's Streaming TV & Radio page, that iCOMPEL offers the station being rebroadcast as a Streaming station under the "Announced as" name.

If the system has not yet tuned, you see not yet tuned displayed. Otherwise, last tuned at tells you when the Rebroadcaster last retuned, while the tuned frequency is the current transponder frequency - it should match the frequency shown for your chosen station in the Digital TV & Radio page.

Error status

The Rebroadcaster retunes if it is struggling to hold onto signal. If this happens, last tuned at is updated to the most recent retune, and the number of times retuned increases. You see a glitch on receivers every time the Rebroadcaster retunes.

A "second with no signal" is a full second in which there is no decodable signal available. These generally indicate that the aerial has been unplugged. The last no signal error time is the time of the last reported second with no signal.

A transport stream discontinuity is a sign of poor signal; it indicates that there have been parts of the stream lost in transmission. Discontinuities may show up on receivers as glitches or dropouts in the picture, or squeals in the sound.

Settings

When the rebroadcaster is disabled, the TV card is available for the iCOMPEL to use as normal, and no stations are rebroadcast by this iCOMPEL. When it is enabled, the TV card is not available for the iCOMPEL to use (thus Analog TV, Digital TV & Radio, composite capture and S-Video capture are not possible), but one Digital TV or Radio station may be streamed over IP multicast.

The only setting you will normally need to change is the Digital TV or Radio station. Select the station you wish to stream from the list - if the station you wish to stream is not present, return to the Digital TV & Radio Settings page and rescan.

The stream name is included in SAP announcements; other iCOMPEL players with a Streaming feature key installed will offer this channel in their list of streaming channels. The default is to use the station name as found in the tuning data, but you may set this to a custom name if you wish; for example, you could set it to "iCOMPEL TV" to allow all Layouts to refer to the same channel, regardless of what you configure here.

Advanced Settings for Network Administrators

These properties can only be modified if the User Interface Policy is set to Detailed. Please visit the Options page to set this mode.

The SAP announcement address is the address this iCOMPEL sends details of the streaming channel to. The default of 224.2.127.255 is specified in the SAP standard; iCOMPEL players with the Streaming feature key are shipped with this address configured.

The multicast destination is specified as a multicast IP, UDP port and multicast TTL. The default multicast IP is generated from the iCOMPEL serial number, within the organization-local space; change it if it conflicts with other multicast devices. Similarly, the default UDP port of 4900 has been chosen to reduce the number of conflicts you will see. If another device uses the same multicast IP and port number as this iCOMPEL, streaming is corrupted; if the multicast IPs match, but the port numbers are different, the receiving iCOMPEL will have reduced performance, but will still function correctly.

The default TTL of 31 is supposed to limit itself to your site only. It can be changed as needed to fit in with your multicast routing.

9.4.7 International settings

This page allows you to choose language and country preferences for the screen output.

These are used by the HTML player to provide a preferred language and locale to websites and by the text clock to determine the locale appropriate date and time formats.

Note This is different from the language and localization settings of the Web page user interface, which are determined by the browser settings.

9.5 Backing up your Player

Use the **Backup & Restore** page to create **Backup** files (on a USB storage device) that contain all the media content and settings from the iCOMPEL.

These **Backup** files can be stored and later restored onto this iCOMPEL or another.

To create a **Backup** file:

1. Insert the USB storage device on which you wish the **Backup** file to be created.

2. From the menu bar, select **Setup**, then **Maintenance and Troubleshooting**, then **Backup & Restore**.
3. Click the **Create Backup** tab
4. Follow the links to the folder in which you wish to create the backup file (creating folders as needed).
5. Click the **Create Backup** button.
6. Wait for the **Backup** to finish being created.
7. Remove the USB storage device.

To restore a **Backup** file:

1. Insert the USB storage device which contains the **Backup** file that you wish to restore.
2. From the menu bar, select **Setup**, then **Maintenance and Troubleshooting**, then **Backup & Restore**.
3. Locate the **Backup** you wish to restore.
4. Click the correct **Restore Backup** button.
5. Wait for the restore to complete and the iCOMPEL to reboot.
6. Remove the USB storage device.

If you wish to restore **media content** onto a different iCOMPEL that does not have the **Backup & Restore** page, then there are two other methods available:

- Using the **Channel Manager** - use this method for a player that is part of a Signage Network, or to transfer iCOMPEL media content between networked systems.
- Using **Layout Packages** - use this method to create convenient files that can be stored, or transferred to a different iCOMPEL.

Backing up and Restoring your iCOMPEL using the Channel Manager

To backup your iCOMPEL using **Channel Manager**, follow these steps:

8. Use **Channel Manager** to Publish the iCOMPEL in **Backup** mode.
9. Wait for the process to complete.
10. Connect to the iCOMPEL using FTP 44 and download the entire channel folder to your PC.

To restore your iCOMPEL using **Channel Manager**, follow these steps:

1. Connect to the iCOMPEL using FTP 44 and upload the channel folder from your PC.
2. Use **Channel Manager** to subscribe the iCOMPEL to `http://127.0.0.1/data/channel` using the username and password that you use to log into the iCOMPEL.
3. Wait for the process to complete.

Backing up and Restoring your iCOMPEL using Layout Packages

> ⚠ There is an effective size limit of 2GB for a **Layout Package** ZIP file. This means that you may need to save large files, such as movies separately, and not include them in your **Layout Packages**.

To backup your iCOMPEL using **Layout Packages**, follow these steps:

1. From the menu bar, select **Layouts**, then **Layout Packages**.
2. Click the **Create** tab and create a new **Package** that contains every Layout.
3. Wait for the process to complete.
4. Click the link to download the new Package as a ZIP file to your PC.

To restore your iCOMPEL using **Layout packages** follow these steps:

1. From the menu bar, select **Layouts**, then **Layout Packages** and upload the ZIP file from your PC.
2. Click the **Install** button to unpack the ZIP file.
3. Wait for the process to complete.

9.6 Software update

Updates are supplied as 'OPF' files. An update will contain new software that will, once installed, bring the iCOMPEL up to a new version of software.

Please contact your supplier for availability of iCOMPEL updates.

Note: It is not possible to install an earlier software version than the one currently installed. The currently installed version is shown highlighted.

⚠ Never turn off the power to the iCOMPEL while it is installing an Update. It can take 30 minutes to install a large update.

To access the **Software Updates** page, select **Setup** from the menu bar, then **Maintenance and Troubleshooting**, and **Software Updates**.

The **Software Updates** page has three tabs:

- **Update status** - shows the current state of iCOMPEL software updates
- **Settings** - allows you to choose your preferred update method (manual or automatic)
- **Manual update** - allows you to find, download and install the latest software update.

9.6.1 Manual

Manual Update tab

This tab allows you to upload OPF files to update the iCOMPEL.

After uploading the OPF file, follow the on screen instructions.

9.6.2 Automatic

Settings tab

This tab allows you to configure the **Software Update** manager.

Update Mode

Select the update mode you wish to use:

- **Automatically download and install updates** - The iCOMPEL automates all the steps necessary to keep itself up to date.
- **Check for new updates but do not download or install them** - The iCOMPEL checks for new updates and shows the results on the Status tab.
- **Turn off automatic update** - Updates to the iCOMPEL software must be completed manually by the user.

Reboot Allowed

Set the days and time of day that the iCOMPEL may be rebooted to install an update.

Download Allowed

Set the days and times of day that the iCOMPEL may be checked for updates and download them.

Update Server URL

Enter the URL of the update server. This is the address of the web site that contains update information.

Check Interval

Set a check interval in hours and minutes.

Checking is the process of logging on to Update Server, determining whether a new update is available or not and initiating the copying of the new update if required by the Update Mode. The Check Interval is the frequency of, or time between, successive checks.

Authentication

If required, enter the Username and Password to gain access to the Update Server.

Proxy

If a proxy server is required to contact the Update Server URL, then enable this setting and ensure that a Proxy has been configured for Software Update in the HTTP Proxy page.

9.6.3 Status

Update Status tab

The first part of this tab shows the results from the last installation of an update. The second part shows the status of the automatic software update manager.

9.7 Reboot system

This page allows you to reboot this iCOMPEL.

Select **Yes** from the drop-down list and click **Reboot**.

The iCOMPEL can be powered down by simply switching off the power, but a proper reboot is required after a software update file has been placed on the iCOMPEL.

Part X

Troubleshooting

10. Troubleshooting

Your iCOMPEL requires little maintenance.

The internal software for your iCOMPEL is updated from time to time by Black Box Network Services. To make sure your iCOMPEL receives all the necessary updates see Software updates 144.

The following topics can help you resolve certain problems that may occur with your iCOMPEL.

Software update 144
Reboot system 145
Support information 147
Support snapshot 148
Support logs 148

10.1 Support information

This page provides facilities that you may be asked to use when requesting support.

Available options are:

Support Information

Package installations	View the packages that have been installed on this unit. Each package represents an update from an earlier to a later version of the software.

iCOMPEL logs

iCOMPEL Log Viewer	This opens a new page showing a list of log files on the iCOMPEL. Each one can then be viewed. Typically these files would be viewed on request by Support who could explain their content and purpose. Any .stdout files of non-zero size indicate a problem. The number between the log file name and extension is the number of days in the past that the file was created. Log files with no day number are current.
Update log viewer	This shows a log of all the software updates that have been performed on this iCOMPEL.
System log viewer	This opens a new page showing a list of system log files on the iCOMPEL. The http access log is useful for detecting unauthorized use of the iCOMPEL.

iCOMPEL Details

Process tree	This displays a diagram of all the processes running on the iCOMPEL and any sub-processes. Technical support personnel may ask you to produce this diagram and look for particular process names.
Top processes	This shows a list of all processes running on this iCOMPEL in order of the amount of processing power that they are using. The percent CPU column is the most interesting and any processes that appear to be using a large proportion should be reported to support.
Kernel messages	This shows a list of messages from the fundamental part of the operating system.
Screen	This shows information returned from the screen describing the screen's capabilities.

10.2 Support snapshot

Please follow the on-screen instructions to create a **Support Snapshot**, if you are asked to do so by the support representative.

The **Extras** tab includes a number of diagnostic tools that you may be asked to use by the support representative to help diagnose and resolve problems with your iCOMPEL.

10.3 Connection troubleshooter

If you are having difficulties connecting to your iCOMPEL, check the steps in the following table:

Task	Comment
There must be network cables connecting the iCOMPEL to your PC.	Use either a network cable connecting your PC to your LAN and one connecting the iCOMPEL to the LAN, or a crossover cable connecting your PC directly to the iCOMPEL. Make absolutely sure that you are using a crossover cable.
If you are using a laptop connect it to mains power.	If your laptop is running on battery power, and the battery is low, the networking circuits may have been shut down. You may need to reboot your laptop and the iCOMPEL.
If you are using a crossover cable, you should turn off any wireless networking.	Your laptop may have a switch to turn wireless networking on and off. Otherwise, look for an icon on your desktop, or in your Control Panel (for Windows PCs).
If you are using a crossover cable, your PC must not be configured to work through a proxy.	In Internet Explorer, select **Tools>Internet Options>Connections> LAN Settings** and *clear* the checkbox for the **Use a proxy server...** option. In Firefox, select **Tools>Options..>Connection Settings** and *select* the checkbox for the **Direct connection to the Internet** option.

Reboot the iCOMPEL and the PC.

During iCOMPEL boot sequence look for an `ok` message (in green) for the `eth0` parameter.	If you see a `[Fail]` message (in red) for the `eth0` parameter this usually means that the iCOMPEL has found nothing to connect with at the other end of the cable.
During iCOMPEL boot sequence look for the IP address on the screen.	A **No Cable** message means that the cable is missing or faulty or that there is another device on the network with the same IP address. The address 169.254.1.1 either means that DHCP could not be found or you are using a crossover cable.
The iCOMPEL must have completed its boot sequence.	The screen connected to the iCOMPEL should be showing the default Layout and content.
The yellow LEDs on all applicable network sockets should be on or flashing.	Check the yellow light (if present) on the socket that the network cable plugs into on your PC, on the iCOMPEL and any hubs or routers in the path from the PC to the iCOMPEL (if applicable).
You should know the IP address of your PC.	To find the IP address of a Windows PC, click on **Start>Run**, type `cmd` and click **OK**, type `ipconfig` and press **Enter**. Your PC displays its IP address.
Make sure that the IP addresses of the iCOMPEL and PC are in the same sub-net.	You may need to consult your Network Administrator for further advice.
You should try to ping the iCOMPEL from the PC. (Some networks do not allow pings.)	On a Windows PC click on **Start>Run**, type `cmd` and click **OK**, type `ping` followed by a space and then the IP address of the iCOMPEL and press enter. After a few seconds you should see a message that includes the phrase (`0% loss`). The yellow LED on the network socket of the iCOMPEL should flash during the ping.
You should be able to access the iCOMPEL with your web browser.	In your web-browser (e.g. Internet Explorer) type the IP address of the iCOMPEL into the address bar and press Enter. When prompted enter the username and password for the iCOMPEL. The home page of the iCOMPEL should appear in the browser.
Make sure your web browser is not showing a cached version of the iCOMPEL's web page.	In Internet Explorer, select **File>Work offline>** and clear the check box, and also select **Tools>Internet Options>** and clear the history, then press F5.
If you are using a crossover cable then you should not be prompted to dial up to the Internet.	If you are using Internet Explorer and you cannot prevent the PC from dialing out for an Internet connection then install the Firefox browser on your PC and use it to access the iCOMPEL.

You should be able to connect to the iCOMPEL using FTP.	In Internet Explorer, type `ftp://` followed the IP address of the iCOMPEL into the address bar and press Enter. When prompted enter the same username and password. In Firefox, type ftp:// followed by the username, a colon (:), the password, the at symbol (@) and then the IP address of the iCOMPEL. e.g. `ftp//remote:9999@192.168.1.2`. You should see a list of folders including **`media`**.

Part XI

Technical Reference

11. Technical Reference

This section contains technical reference topics not covered elsewhere:

Drag and drop file upload 152
Minimizing energy consumption 155
Processor limitations 155
RS-232 reference 156

11.1 Drag and drop file upload

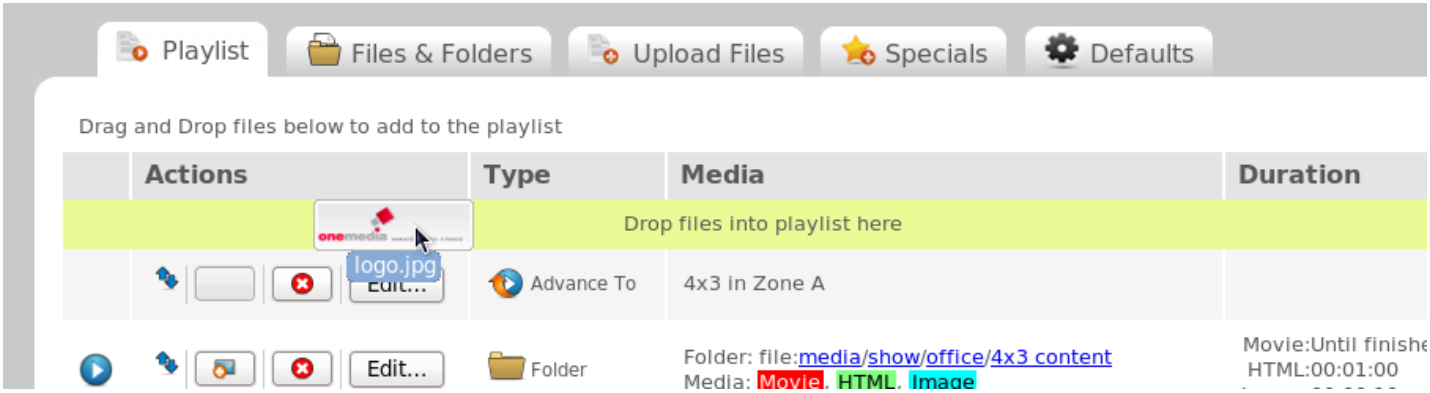
Drag and Drop allows you to simply drag files from your desktop or an open file explorer window and drop them straight onto a zone's Playlist 29 or a file manager 43 within the iCOMPEL.

If your browser supports drag and drop, then a message will appear over the playlist or the files and folders tab stating so.

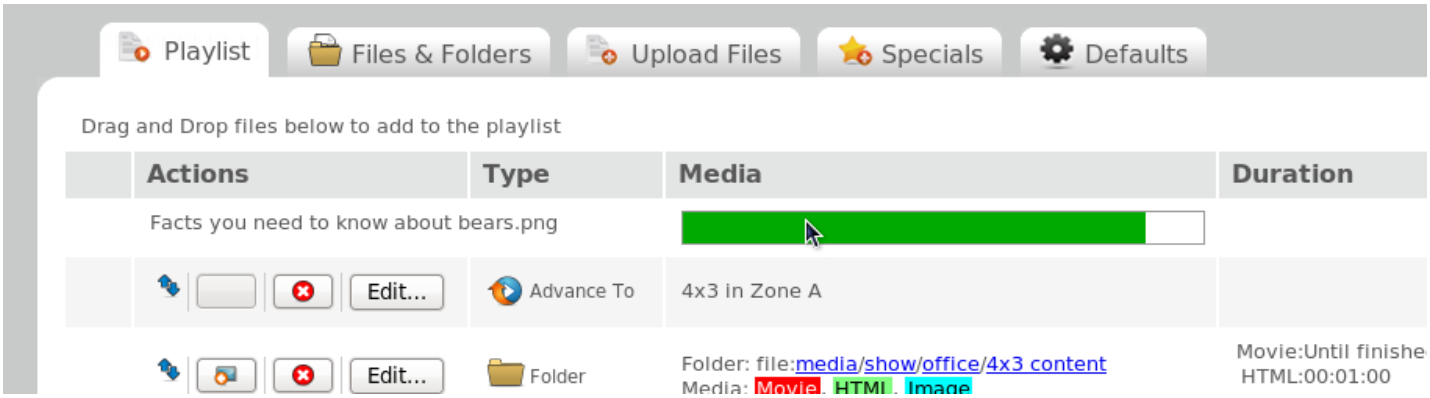
To start dragging, select one or more files on your computer then **click** and **while holding down the left mouse button**, move the mouse to where you want to drop the files on the playlist/files & folders tab, then let go of the left mouse button. What happens will depend on where you drop:

Playlists

As your mouse hovers over the playlist, you'll see gaps opening up between the items in the list showing where you can drop.

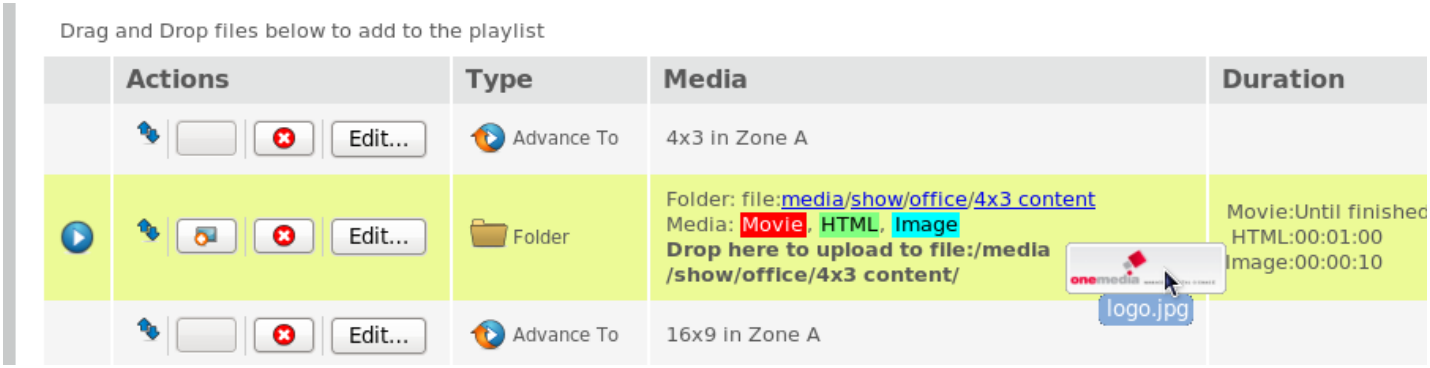


Once you drop the files, you'll see a green upload progress bar as the browser copies the files into the iCOMPEL (or not if the files are small and your connection to the iCOMPEL is fast).



Files are uploaded to a folder based on the current layout and zone name. For example if I upload a file "trees.jpg" to a layout "Bears" into a zone named "Images" then the file will be stored as `media/Bears/Images/trees.jpg`.

You can also drop files into folder play items by dropping on top of them.



If you try to upload media that is not supported in the playlist, then you will receive an error message telling you so.

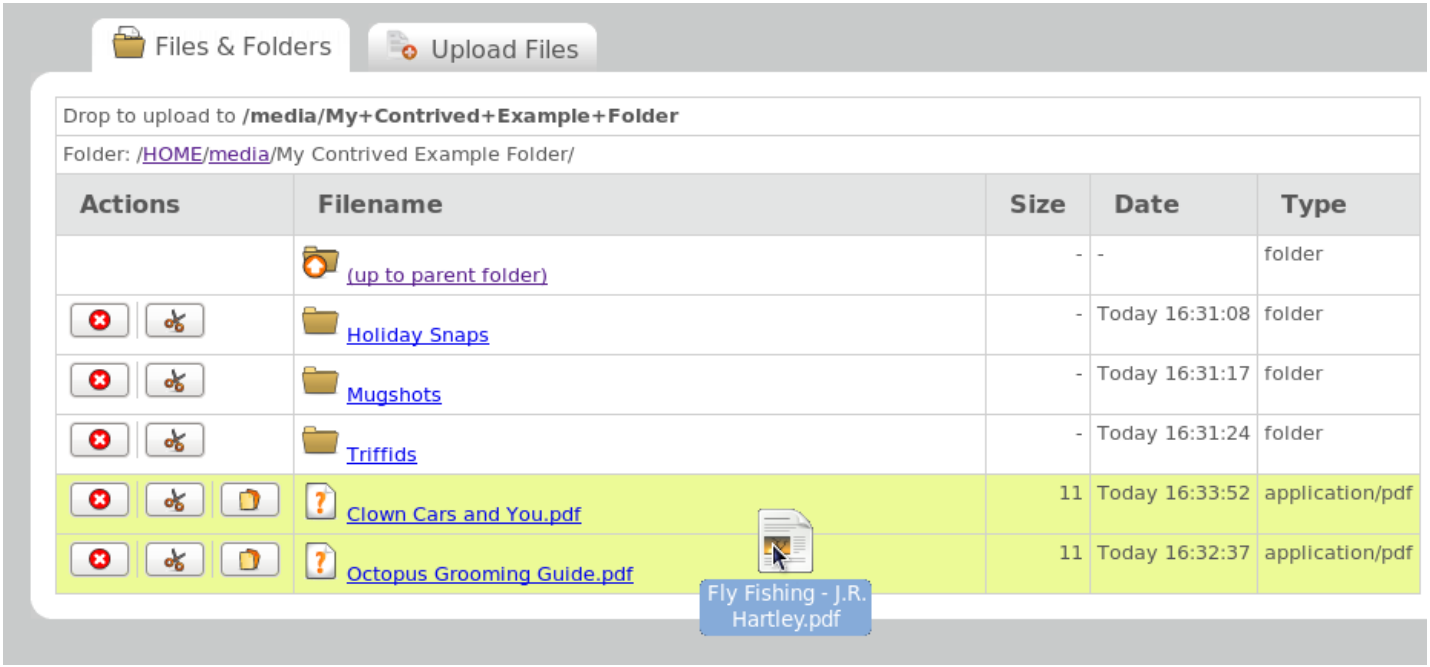
Once the media is uploaded, a new item will appear in the playlist. You can edit it right away.

Files & Folders

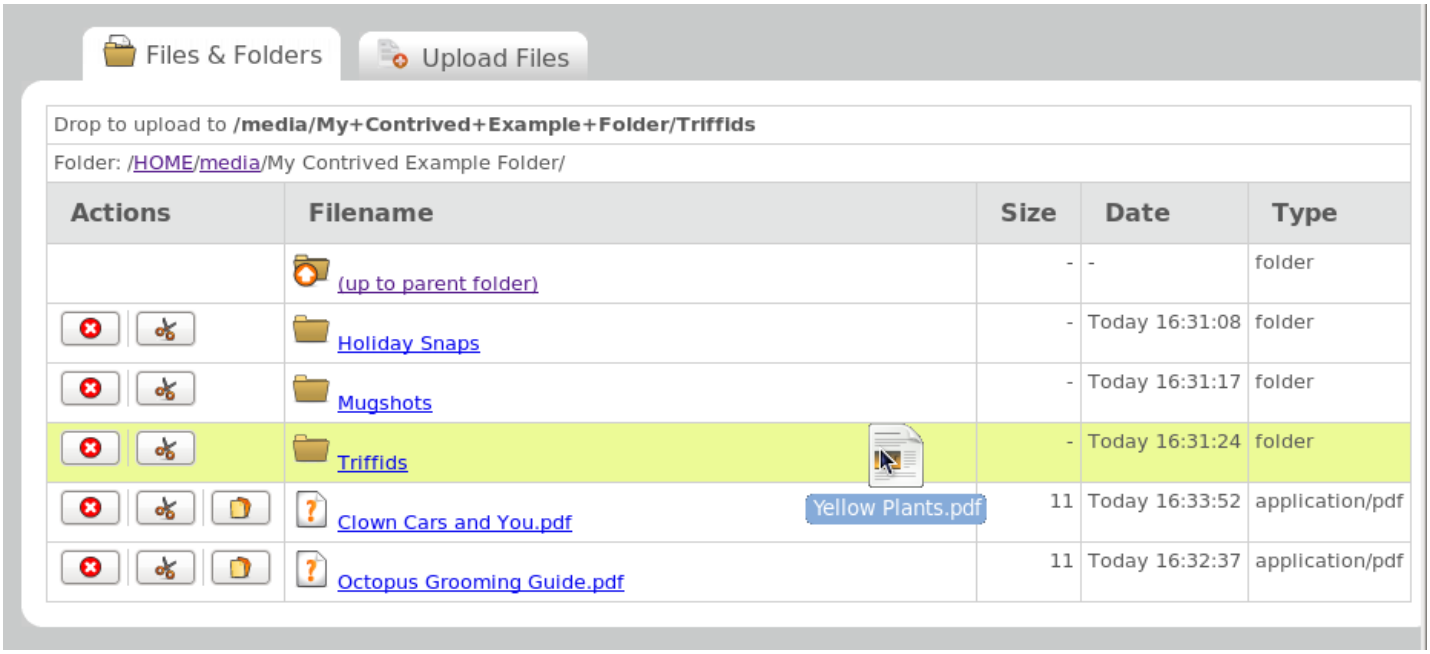
The other place to drop files is in the files and folders tab within the iCOMPEL. This includes:

- The main "File Manager" page found under the "Media" menu.
- The Files & Folders tab found on the Zone Edit page.
- Ad hoc users can also drag files into their Media Folder page.

Dragging onto files & folders works similarly to dragging into playlists. Either drag files into the current folder by dropping over the existing files:



Or drop into a folder within the current one:



Supported Browsers

Dragging and dropping is a new feature that requires features that are new to more modern browsers. As of Summer 2010, the list of supported browsers is as follows:

Operating System	Supported Browsers
Windows (any)	Firefox, Google Chrome
Mac OS X	Firefox, Safari (at least version 5 required)
Linux	Firefox, Google Chrome

This table assumes you have the latest browser version, Opera and all versions of Internet Explorer do not support this feature yet. Other versions have not been tested and are not guaranteed to work.

Limitations

- You can select multiple files to upload at once but you cannot upload folders. Empty files may be ignored as well.
- If you upload a file to a place where there is already a file with the same name, the existing file will be overwritten.
- Some Files and Folder pages are filtered so that only media that can be selected for a playlist (e.g. images, movies etc.) will be shown. In this case you can still upload, but unless your media matches the type of file required by the playlist, you will not see it listed.

11.2 Saving energy

Digital Signage players are designed to run 24/7. To reduce the energy consumption, you may wish to shut part of or the entire system down during certain times of the day. There are three possible approaches:

- Make the iCOMPEL put the Screen into stand-by mode (iCOMPEL continues to run).
- Make the iCOMPEL switch the Screen off via an RS-232 cable (iCOMPEL continues to run).
- Use a timer switch to shut down both the iCOMPEL and the Screen.

Switch Screen to Stand-by mode

To make the iCOMPEL put the **Screen** into stand-by mode immediately, follow these steps:

1. Log into the iCOMPEL and select **Schedule** then **Manage Schedules** from the Menu bar.
2. Click the **Edit** button for the current running **Schedule**.
3. Click the **Edit** button for the current **Schedule Entry**.
4. Set **Screen** to **Off** and click the **Save Changes** button.

To make the iCOMPEL put the **Screen** into stand-by mode at other times, create Schedule Entries 16 which have the **Screen** set to **Off** whenever the **Screen** is not needed.

Switch Screen off with RS-232 Cable

To make the iCOMPEL switch the Screen off with an RS-232 cable follow these steps:

1. Obtain the RS-232 codes to switch the screen on and off from the Screen manufacturer.
2. Connect an RS-232 cable from the iCOMPEL to the Screen.
3. Select **Setup**, then **Player setup** then **RS-232 outputs** from the Menu bar.
4. Select the **Add item** tab, and create separate RS-232 items containing the correct commands to switch the screen on and off. Click the Add button to save each command.
5. You are now able to add these commands to a Playlist as Special Items 31, by selecting them for the **Send RS-232 Item** option.

Switch off equipment with timer switch

You cannot damage an iCOMPEL by cutting off its power supply. However, you should not cut off the power supply while you are updating the software of the iCOMPEL.

To switch off equipment with a timer switch, follow these steps:

1. Obtain a timer switch for the mains power circuit(s) that supply the iCOMPEL and Screen(s).
2. Program the timer switch(es) to turn power on and off at the desired times.
3. Plug the iCOMPEL and Screen power cables into the timer switch(es).

11.3 Optimizing playback performance

Some types of media should be reviewed in order to optimize playback performance.

- Display of MPEG-2 Video at reasonable (up to 10 Mbps) rates is no problem, as this will typically use less than half the processing power budget.
- Images, especially digital photos, should be resized before uploading onto the iCOMPEL - ideally so that they match the size of the Zone.
- Scrolling Text uses relatively little processing time provided it does not take up more then 30% of the screen area.

- Animations (typically in Flash or HTML with embedded JavaScript) have no upper limit to their processing requirements and can overwhelm the iCOMPEL players processing resources. If this occurs, the Animation will typically run slow but other Zones will continue as normal.

11.4 RS-232 technical reference

The pin assignment of the RS-232 9 way D-Plug is as follows:

Pin	Direction	RS-232 Name	Quiescent State
1	Input to iCOMPEL	DCD	Hi impedance
2	Input to iCOMPEL	RxD	Hi impedance
3	Output from iCOMPEL	TxD	-ve Voltage level
4	Output from iCOMPEL	DTR	-ve Voltage level
5		Sig. GND	
6	Input to iCOMPEL	DSR	Hi impedance
7	Output from iCOMPEL	RTS	-ve Voltage level
8	Input to iCOMPEL	CTS	Hi impedance
9	Input to iCOMPEL	RI	Hi impedance

Electrical Interface

For historical reasons, The RS-232 standard uses a variety of terminology to describe its signal status, i.e.

- Lowered = Negated = Logic 1 = -ve voltage = Off = Marking
- Raised = Asserted = Logic 0 = +ve voltage = On = Spacing

The iCOMPEL uses voltage level in order to describe line status since this is the only explicit identification.

Inputs have:

- hysteresis (generally of about 0.5V)
- a threshold level of about +1.5V
- an input impedance of about 5K Ohms connected to Gnd (defaults to a -ve voltage state with nothing attached)
- an acceptable input range of +/-15V

Outputs have:

- a voltage swing ranging from +/-5V to +/-12V (depends on hardware)
- a source current drive capability of about 15ma (with output current limiting) (can drive LEDs/PIR modules and provide a voltage for contact closure applications).

Part XII

Glossary

12. Glossary

Ad hoc	an override to a display Schedule managed by the iCOMPEL controlling the Screen and restricted to a predetermined Zone and content type
Ad hoc from center	an override to a display Schedule managed and sent by a remote publisher iCOMPEL to one or more specific subscriber iCOMPEL players
Channel	a system of connected electronic displays sharing Schedules and content with one publisher iCOMPEL and one or more subscriber iCOMPEL players
Content	an item of digital media or text that is displayed in a Zone as part of a Playlist
Digital signage	a form of electronic display showing a combination of text, graphics, and still and moving images
Digital Signage Network	a system of multiple iCOMPEL players
Screen	an electronic screen used to display digital signage
Layout	the combination a background image and one or more display areas (Zones) and that can be shown simultaneously on a Screen
iCOMPEL	a physical device which controls the visual display on one or more Screens. Also known as a iCOMPEL. Sometimes referred to as a network appliance.
Playlist	a series of digital media content items that are displayed in a Zone
Publisher	an iCOMPEL that distributes channel Schedules to multiple subscriber iCOMPEL players for display on their associated Screens
Schedule	a plan or timetable for displaying Layouts at specific times
Standalone	an iCOMPEL that is neither a publisher nor a subscriber
Subscriber	an iCOMPEL that displays a channel Schedule received from a publisher
Zone	a single display area in a Layout

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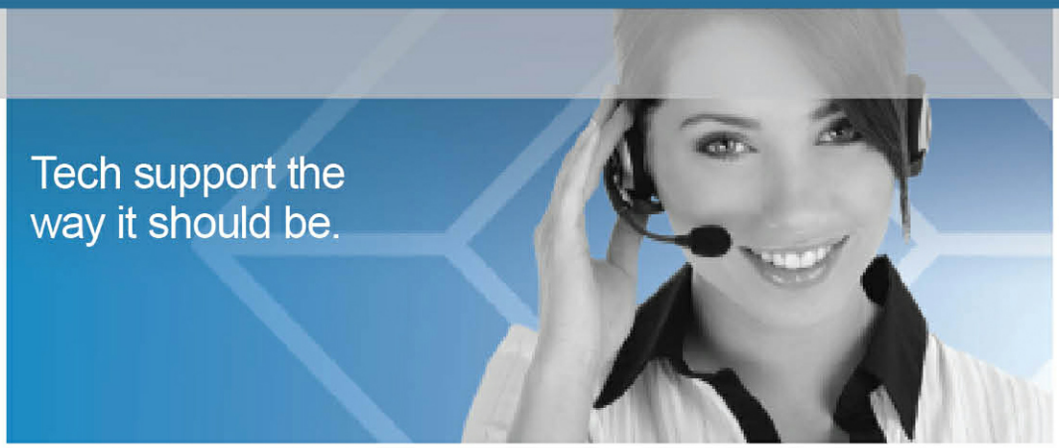

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